LOGIC;
OR, THE
ART
OF
THINKING:

IN WHICH,

Besides the *Common*, are contain'd many excellent *New Rules*, very profitable for directing of *Reason*, and acquiring of *Judgment*, in things as well relating to the Instruction of a *Mans self*, as of *others*.

In Four Parts.

The *First* Consisting of *Reflections* upon *Ideas*, or upon the *first Operation* of the *Mind*, which is called *Apprehension*, &c.

The *Second* of *Considerations* of *Men* about *Proper Judgments*, &c.

The *Third* of the *Nature* and various *kinds* of *Reasoning*, &c.

The *Fourth* Treats of the most *profitable Method* for *demonstrating* or *illustrating* any *Truth*, &c.

TO WHICH

Is added an *INDEX* to the whole *BOOK*.

For the Excellency of the Matter, Printed many times in *French* and *Latin*, and now for Publick Good translated into *English* by SEVERAL HANDS.

LONDON, Printed by *T. B.* for *H. Sawbridge*, at the *Bible* on *Ludgate-hill*. 1685.

AN ADVERTISEMENT OF THE AUTHOR.

THIS Small Treatiſe is altogether more beholding for its Birth to Fortune, or rather to an Accident of Divertiſement, then to any ſerious Deſign. For it happen'd, That a Perſon of Quality, entertaining a Young Nobleman, who made appear a Solidity of Judgment, and a Penetration of Wit much above his years; among other Diſcourſe told him, that when he himſelf was a Young Man, he had met with a Perſon, from whom in fifteen days time he had learnt the greateſt and moſt material Part of *Logic*. This Diſcourſe gave occaſion to another Perſon then preſent, and one who was no great Admirer of that Science, to anſwer with a Smile of Contempt, That if *Monſieur* ——— would give himſelf the trouble, he would undertake to teach him all that was of any uſe, in the ſo much cry'd up *Art* of *Logic*, in four or five Days. Which Propoſal made in the Air, having for ſome time ſerv'd us for Paſtime, I reſolv'd to make an Eſſay: And becauſe I did not think the vulgar *Logic*'s, either Compendiouſly or Politely written, I deſign'd an Abridgment for the particular uſe of the Young Gentleman himſelf.

This was the only Aim I had when I firſt began the Work; nor did I think to have ſpent above a

day about it. But ſo ſoon as I had ſet my ſelf to work, ſo many new Reflections crowded into my Thoughts, that I was conſtrain'd to write 'em down for the diſcharge of my Memory. So that inſtead of one day, I ſpent four or five; during which time, this Body of *Logic* was form'd, to which afterwards ſeveral other things were added.

Now tho it ſwell'd to a greater Bulk of Matter then was at firſt intended, yet had the Eſſay the ſame ſucceſs which I at firſt expected. For the young Nobleman having reduc'd the whole into four Tables, he learnt with eaſe one a day, without any aſſiſtance of a Teacher. Tho true it is, we cannot expect that others ſhould be ſo nimble as he, who had a Wit altogether extraordinary and prompt to attain whatever depended upon the Underſtanding.

And this was the accidental occaſion that produc'd this Treatiſe. But now whatever cenſure it may undergo in the World, I cannot be juſtly blam'd for committing it to the Preſs; ſince it was rather a forc'd then voluntary Act. For ſeveral Perſons having obtain'd Copies of it in Writing (which cannot well be done without ſeveral Errors of the Pen) and underſtanding withal, That ſeveral *Book ſellers* were about to Print it, I thought it better to ſend it into the World corrected and entire, than to let it be Printed from defective *Manuſcripts*. But then again I thought my ſelf oblig'd to make divers Additions, which ſwell'd it above a *Third Part*, believing the Limits of the *Firſt Eſſay* too ſhort for a *Public View*. And to that purpoſe we have made it the Subject of the following Diſcourſe to explain the End, which we propoſe to our ſelves, and the reaſon why we have included ſo much variety of Matter.

THE

THE TRANSLATORS TO THE READER.

THE Common Treatiſes of LOGIC are almoſt without number, and while every Author ſtrives to add ſomething of his own, ſometimes little to the purpoſe, ſometimes altogether from the matter, the Art is become not only Obſcure and Tedious, but in a great meaſure Impertinent and Uſeleſs.

Thus the Schoolmen may be ſaid to have clogg'd and fetter'd Reaſon, which ought to be free as Air, and plain as Demonſtration it ſelf, with vain miſapplications of this Art to Notion and Nicety, while they make uſe of it only to maintain litigious Cavils and wrangling Diſputes. So that indeed the common LOGICS are but as ſo many Counterſcarps to ſhelter the obſtinate and vain-

vain-glorious, that diſdain Submiſſion and Convincement, and therefore retire within their Fortifications of difficult Terms, wrap themſelves up in Quirk and Suttlety, and ſo eſcape from Reaſon in the Clouds and Miſts of their own Raiſing.

For remedy of which we are beholden to this Famous Author, who has at length recover'd this Art, (then a noble Science when not Pedantic*) from Night and Confuſion; clear'd away the Rubbiſh that oppreſs'd it, and prun'd off thoſe Underwoods and ſuperfluous Boughs, that overſhaded and ecclipſed the light of true Reaſon; ſo that now* LOGIC *may be ſaid to appear like Truth it ſelf, naked and delightful, as being freed from the* Pedantic *Duſt of the Schools.*

It has had this Influence upon the World already, that ſeveral Books have been already Written from the Rules of this LOGIC, not only by the Author himſelf, no leſs Celebrated for his Writings, then for many other worthy Actions that recommend him to the Commonwealth of Learning: Nor is his diligence in this particular, leſs to be applauded, for having cleans'd the Augean *Stables of ſo many* Syſtems, *from ſtudied* Barba-

riſm

riſm *and* Delirium. *For which reaſon this* LOGIC *was thrice Reprinted in* France, *ſo great was the ſatisfaction in thoſe* Parts; *and likewiſe Tranſlated into* Latin *for Univerſal Benefit*; *and now is rendered into* Engliſh, *as being a Small Treatiſe, no leſs Uſeful for the Conduct of* Human Life, *than to inſtruct and guide us wandring in the* Labyrinths *of* Unſettl'd Reaſon.

Let *not the* Reader *ſlightly paſs theſe* Pages *over, but ſeriouſly digeſt This* Art of Thinking, *and being digeſted, let him diſperſe the* Applications *into all the* Judgments, *which he makes of* Things, *and into all the* Actions *of his* Life, *if* Knowledg *and* Underſtanding *be his* Aim.

THE FIRST DISCOURSE; Shewing the DESIGN Of this New Logic.

THERE is nothing more worthy of Eſteem, than ſoundneſs of Judgment, and an exact meaſure of Wit to diſcern between truth and falſhood. All the other faculties of the Mind are of ſingular uſe, but exactneſs of Reaſon is univerſally profitable upon all occaſions, and in all the employments of Life. For it is not only in the Sciences that it is a difficult thing to diſcern truth from error, but alſo in all thoſe affairs and actions both of the Body and Mind, which are the ſubjects of human diſcourſe. There is in every one a ſignal difference, while ſome are true and ſome are falſe; and therefore it be-

longs to Reaſon to make the choice. Who chuſe aright, are they who are indu'd with an equal poiſe of Wit; ſuch as make a wrong choice are they whoſe Judgments are deprav'd; wherein conſiſts the chiefeſt and moſt Important difference between the faculties of the Underſtanding.

And therefore it ought to be the moſt principal Study of a Man to form and ſhape his Judgment, and to render it the moſt exact that poſſible may be; the main aim to which his utmoſt diligence ought to tend. To this end we muſt make uſe of Reaſon, as the Inſtrument to acquire Knowledg, and on the other ſide, we ought to make uſe of Knowledg to perfect Reaſon. Truth of Underſtanding being Infinitely of greater value than all ſpeculative Knowledg, by means of the moſt ſolid and certain Sciences: Which ought to be a caution to all men of Prudence, not to engage farther in thoſe ſpeculations, than while they ſerve to that end; and only to make tryal of thoſe Studies; not to employ therein the whole force of their Wit.

For if the diligence of Men do not tend to this end, they will not find the ſtudy of the ſpeculative Sciences, ſuch as Geometry, Aſtronomy, and Phyſick, to be other than a vain amuzement, or that they be much more to be valued than the Ignorance of thoſe things; which at leaſt has

has this advantage that it is leſs troubleſome, and does not puff Men up with that ſottiſh vanity, which they aſcribe to themſelves from the knowledg of thoſe fruitleſs and barren Sciences.

The hidden ſecrets and miſteries of thoſe Arts are not only of little profit, but altogether uſeleſs, if Men conſider 'em only in themſelves and for themſelves. For Men were not born to employ their time in meaſuring Lines, in examining the proportion of Angles, or conſidering the different motions of Subſtance. Their Souls are too lofty, their Life too ſhort, their time too precious, to buſy themſelves about ſuch petty Objects. But they are obliged to be juſt, to be upright, to be judicious in all their diſcourſes, in all their actions, and in all affairs which they undertake.

Which Care and Induſtry is ſo much the more neceſſary, by how much this one rare perfection, exactneſs of judgment, is to be admired above all others: for every where we meet with none but wandring Underſtandings, uncapable of diſcerning Truth, who in all things take a wrong Courſe; who ſatisfy themſelves with corrupted reaſons, and fain would impoſe the ſame upon others; who ſuffer themſelves to be led away with the ſmalleſt Experiences; who are always in exceſſes and extremities; who want ſufficient ſtaidneſs to preſerve themſelves conſtant to the Truths which they know, as adher-

ing thereto rather by hazard, then ſound and judicious choice; or elſe quite contrary, continue ſo obſtinately fix'd in their opinions, that they will not ſo much as liſten to thoſe that could undeceive them; who boldly decide and determine Arguments, which they neither know nor underſtand, and which were never yet underſtood by any other: who make no difference at all between Speaking and Speaking; or only judg of the truth of things by the tone of the Voice: he that talks ſmoothly and gravely, ſpeaks reaſon; he that cannot readily explain himſelf, and ſeems to be in a heat, muſt be in the wrong; and more then this they know not.

Which is the reaſon that there are no abſurdities how inſupportable ſoever, which do not find their Champions. He that has a deſign to deceive the World, ſhall not fail of Perſons as ready to be gull'd, and the moſt ridiculous Fopperies ſhall meet with Underſtandings proportionate to their Folly. And indeed we ought not to wonder at any thing, while we find ſo many People infatuated with the Fooleries of judicial Aſtrology, and perſons of gravity ſo ſeriouſly handling that Subject. There is a certain Conſtellation in the Firmament which ſome men have been pleas'd to call a *Ballance*; as like a Ballance as a Wind-Mill and all one. This *Ballance*, they cry, is an Emblem of Juſtice, and all that are born under that conſtellation ſhall be up-

upright and juſt. There are three other Signs in the Zodiac which they call, the one a *Ram*, the other a *Bull*, the third a *Goat*; and which they might as well have call'd an *Elephant*, a *Crocodile*, or a *Rhinoceros*. Now the *Ram*, the *Bull*, and the *Goat* are Beaſts that chew the Cud; and therefore they that take Phyſick when the Moon is in any of theſe Conſtellations ſhall be in danger to vomit it up again. Theſe are ſtrange extravagancies; yet as extravagant as they are, there are perſons that utter 'em abroad for ſound ware, and others that as eaſily believe 'em.

This falſhood of the Underſtanding is not only the Cauſe of thoſe Errors that are intermix'd in the Sciences, but of the greateſt part of thoſe faults and Crimes that are committed in Civil Life and Converſation, of unjuſt Quarrels, of ill grounded Law-ſuits, of raſh advice, and of Enterprizes ill contriv'd and worſe mannag'd. There are few of theſe miſcarriages that have not their ſource from ſome Errour or Defect of Judgment. ☞ that there is no Defect which it more concerns a man to Correct in himſelf then this.

But as this amendment is greatly to be deſir'd and wiſh'd for, ſo is it equally as difficult to maintain, ſeeing it depends much upon that meaſure of Intelligence which we bring into the World at our Birth. For common Sence is no

ſuch Vulgar Quality as men take it to be. There are an infinite company of dull and ſtupid Heads which are not to be reform'd by Inſtruction, but by reſtraining 'em within thoſe bounds which are proper for their Capacity, and hindring 'em from medling with thoſe things of which they are uncapable. Nevertheleſs, 'tis very true, that the greateſt part of the fallacious Judgments among men proceed not from this Principle; as being rather caus'd by the precipitation of the Brain, and through defect of Conſideration; from whence it comes to paſs that they judge raſhly of what they only know obſcurely and confus'dly. The little regard and love of Truth in Men, is the reaſon that they take ſo little pains, the cheifeſt part of their time, to diſtinguiſh what is true from what is falſe. They admit into their Breaſts all ſorts of Diſcourſes and Tenents, rather chooſing to ſuppoſe them to be true, then to examine 'em. If they underſtand them not, they are willing to believe that others do. And thus they load their memories with an infinite number of falſities, and afterward argue upon thoſe Principles, never conſidering what they ſay or what they think.

Vanity and Preſumption alſo contribute very much to this Miſcarriage. They think it a ſhame to doubt, and not to know; and they rather chuſe to talk, and determine at a venture

ture, then to acknowledge their not being ſufficiently inform'd to judge aright. Alaſs! we are full of Ignorance and Errour; and yet it is the moſt difficult labour in the World to draw from the lips of Men ſuch a Confeſſion as this, *I am deceiv'd, I am at a ſtand*; though ſo juſt and ſo conformable to their Natural Condition.

Others there are, on the other ſide, who not having wit enough to know that there are a thouſand things full of obſcurity and uncertainty; and yet out of another ſort of vanity, deſirous to let the World ſee that they are not ſway'd by Popular Credulity, take a pride in maintaining that there is nothing at all certain. Thus they diſcharge themſelves of the trouble of examination, and miſguided by this evil Principle, they queſtion the moſt conſtant Truths, even of Religion it ſelf.

This is the Source of *Pyrrhoniſm*, which is another extravagance of human Wit; which though it appears quite contrary to the raſhneſs of thoſe that decide and determine all things, flows nevertheleſs from the ſame Spring, that is to ſay, want of Conſideration. For as the one will not take the pains to find out Errour, the other will not be at the trouble to face Truth with that ſtedfaſtneſs which is requiſite for convincement. The leaſt glimmering ſuffices to make the one believe notorious falſhoods; and to the other is a ſufficient ſatisfaction to make

'em queſtion the greateſt certainties. But as well in the one as the other; it is only want of Induſtry that produces ſuch different effects.

True Reaſon places all things in their proper ſtation. She cauſes us to ſcruple all things that are doubtful, to reject what is falſe, and ingeniouſly to acknowledge what is clear and evident; without contenting our ſelves with vain Arguments of the *Pyrrhonians*, which do no way deſtroy the rational aſſurance we have of things certain, not in the very judgments of thoſe that propoſe 'em. No man ever ſeriouſly doubted whether there were a World, a Sun and a Moon, or whether the whole were bigger then it's part? Men may outwardly ſay with their Lips that they doubt ſuch a thing, but they can never affirm it in their hearts. Therefore *Pyrrhoniſm* cannot be call'd a Sect of People that are perſwaded of what they aver, but a Sect of Liars. So frequently do they contradict one another in diſcourſing of their Opinions, their hearts not being able to accord with their Tongues, as we may find in *Montaigne*, who has endeavour'd to reſtore that Sect to this Latter Age. For after he has affirm'd that the *Academic*'s differ'd from the *Pyrrhonians*, he declares himſelf for the *Pyrrhonians* in theſe words, *The Opinion of the* Pyrrhonians, ſaith he, *is more bold, and altogether much more probable*: Whence it appears, that there are ſome things more probable

bable then others. Nor does he ſpeak this to maintain a piece of ſuttlety: they are words that eſcap'd him before he was aware, and that proceeded from the bottom of Nature, which the falſhood of Opinion cannot ſtifle.

But the miſcheif is that in things that are not ſo ſubject to Sence, theſe Perſons that place their whole delight in doubting all things, will not permit their Wit to apply it ſelf to what might confirm their Judgments; or if they do, 'tis very ſlightly; by which means they fall into a voluntary ſuſpence and wavering in matters of Religion, as being pleas'd with that ſtate of Darkneſs which they procure to themſelves, and more convenient to allay the ſtings and reproaches of their Conſcience, and give the free Reins to their paſſions.

Seeing then, that theſe irregularities of the Underſtanding, which appear ſo oppoſite, while the one gives eaſie beleif to what is obſcure and uncertain, the other ſtill queſtions what is clear and evident, have yet the ſame Source, that is to ſay, want of attentive Study to diſcern the Truth; the Remedy is viſible, ſince there is but one way to guard our ſelves from thoſe miſcarriages by rectifying our Judgments, and our thoughts with mature and ſtudious deliberation. Which is the only thing abſolutely neceſſary to defend a man from ſurpriſes. For as to what the *Academics* affirm'd, that it is impoſſible to find out the Truth,

Truth, unleſs we had the marks of it, as it would be impoſſible to know a Runagate Slave, if met by chance, unleſs his peculiar marks were known, it is a meer frivolous peice of ſubtlety. For as we need no other marks to diſtinguiſh Light from Darkneſs but the Light it ſelf, ſo neither do we need any other marks to diſtinguiſh Truth, then the brightneſs of the Evidence which ſurrounds it, and ſubdues and convinces the Underſtanding, maugre all oppoſition. So that all the Arguments of theſe Philoſophers are not able to prevent the Soul from ſurrendring her ſelf to Truth, when fully penetrated by it's peircing rays, then they are able to hinder the Eyes from ſeeing, when open, and that they are peirc'd by the light of the Sun.

But becauſe the Underſtanding ſuffers it ſelf to be ſometimes abus'd by falſe Appearances, for want of neceſſary conſideration, and becauſe it has not attain'd to a knowledge of things by long and difficult examination, moſt certainly it would be of great advantage to find out Rules for the improvement of the Search of Truth, that ſo it might become more eaſie and more ſurely effectual; nor is it impoſſible but that ſuch Rules might be found out. For ſince that Men are frequently deceiv'd in their judgments, and ſometimes again as rightly underſtand when they argue one while ill, another while well; and after they have argu'd ill, are capable to

ſee

ſee their Errour; 'tis but obſerving by reflecting upon their own thoughts, what method they follow'd when they argu'd well, and what was the cauſe of their miſtake, when they happen'd to be deceiv'd, and by vertue of thoſe reflexions to frame Rules to themſelves, whereby to avoid being ſurpriz'd for the future.

This is properly that which the Philoſophers undertake and which they make ſuch magnificent promiſes to perform: And therefore if we may believe 'em, they furniſh us in that ſort of Learning which they deſign to this purpoſe, calling it by the name of *Logic*, with a Light ſufficient to diſſipate all thoſe Clouds that dark'n our Underſtanding. They correct all the Errours of our thoughts, and give us ſuch infallible Rules that we cannot miſs the Truth, and ſo neceſſary withal, that without 'em it is impoſſible to know any thing of certainty. Theſe are the Applauſes which they themſelves give their own precepts. But if we conſider, what we find by experience concerning the uſe which theſe Philoſophers have made of thoſe Rules as well in Logic, as in other parts of Philoſophy, we may have ſufficient cauſe to miſtruſt the verity of their Promiſes.

But becauſe it is not juſt to reject whatever is beneficial in Logic, becauſe of the ill uſe that is made of it; and for that it is not probable that ſo many great Wits, who have ſo ſedulouſly ſtudied

ſtudied the Rules of Reaſoning, could find out nothing that was ſolid and material; and laſtly, for that cuſtom has introduc'd a kind of neceſſity for us to have at leaſt a rough knowledg of Logic, we thought it might in ſome meaſure contribute to the publick advantage, to draw from thence whatever it contain'd moſt ſerviceable to rectifie our judgments. And this is cheifly the deſign of this Treatiſe, together with ſome new Reflections that came into our thoughts while the Pen was in our hands, and which indeed make up the greateſt and moſt conſiderable part of the whole.

For we find that the ordinary Philoſophers had no other intention then to ſet down the Rules of good and bad Arguments. Now though it cannot be ſaid that theſe Rules are altogether uſeleſs, ſince many times they ſerve to diſcover the fraud of intricate and puzling Arguments, and to diſpoſe our thoughts to argue and refel in a more convincing manner; nevertheleſs we are not to believe that this benefit extends very far; the greateſt part of the Errors of men not conſiſting in their ſuffering themſelves to be deluded by ill Conſequences, but in permiting themſelves to be ſway'd by falſe judgments, from whence falſe Conſequences, are drawn. And this is that for which they who have hitherto treated of Logic have found but little remedy; and which is therefore the ſubject of the

the new Reflections ſo frequent in this Treatiſe.

Nevertheleſs we are oblig'd to acknowledge, that theſe Reflections which we call new, becauſe they are not to be found in Common *Logics*, are not all the Author's own; but that we have borrow'd ſome from the Writings of a famous Philoſopher of this Age, wherein appears as much perſpicuity and curioſity of Wit, as there does confuſion in others. Some few other Reflections we have alſo drawn from a ſmall *Manuſcript* of the deceas'd *Monſieur Paſchal*, entitl'd, *The Soul of Geometry*, and this is that which we have made uſe of in the Ninth Chapter of the firſt part of the Difference between the Definitions of *Name*, and the Definitions of *Thing*, and the five Rules which are explain'd in the fourth Part, more largely handl'd there then in this Treatiſe.

As to what we have taken out of the ordinary Logic Books, our following obſervations declare.

In the firſt place we had a deſign to bring into this Treatiſe all that was really beneficial in others, as the Rules of Figures, the Diviſions of Terms and Ideas, with ſome reflections upon the Propoſitions: other things we thought of little uſe, as the *Categories* or *Predicaments* and *Places*; but becauſe they were ſhort, eaſie and common, we did not think fit to omit 'em with a caution however, what judgment to make of 'em, to the end they might not be thought

thought more uſeful then indeed they are.

We were more doubtful what to do with certain other Things, ſufficiently knotty, but of little profit, as the *Converſion* of *Propoſitions*, the *Demonſtration* of the Rules of *Figures*; but at length we reſolv'd not to leave 'em out, the difficulty it ſelf not being altogether uſeleſs: For true it is that when it does not terminate in the knowledg of any Truth, we may have reaſon to ſay, *Stultum eſt difficiles habere nugas*, *'Tis a fooliſh thing to labour in difficult trifles.* Yet are they not altogether to be avoided, when they lead us to ſomething of Truth, ſince it may prove to a mans advantage to exerciſe himſelf in the underſtanding of Truths that are intricate.

There are ſome ſtomacks that only digeſt light and delicate Dyet, and there are ſome Wits that cannot apply themſelves to the ſtudy of other then eaſie Truths array'd in the Ornaments of Eloquence. Both the one and the other is a niceneſs not to be commended, or rather a real Weakneſs. For a man muſt endeavour to enable himſelf to diſcover Truth, when it is moſt conceal'd and envelopp'd, and to reſpect her, in what ſhape ſoever ſhe appears. For if a man be not able to ſurmount that niceneſs and diſtaſte; which is eaſily conceiv'd of things that appear a little ſuttle and Scholaſtic, he does but thereby contract and ſhrivel up his Under-

Underſtanding, and render himſelf uncapable to apprehend any more then what is to be known by a long ſeries of ſeveral Propoſitions. So that when one Truth depends upon three or four Principles which he muſt neceſſarily conſider and ſtudy all at one time, he is amaz'd and foil'd, and many times depriv'd of the knowledg of ſeveral things highly advantageous; which is a fault of great conſequence.

The capacity of Man's Underſtanding ſhrinks or dilates it ſelf according to uſe and cuſtom, and therefore for the enlarging of the Intellect the Mathematicks and all difficult Studies chiefly conduce; for they cauſe an expanſion of thoughts, and exerciſe 'em in diligence, and embolden 'em in a ſteddy confidence to ſtick to what they know.

Theſe are the reaſons that induc'd us not to omit thoſe thornie Subjects, and to diſcourſe of 'em as nicely as any other treatiſe of Logic. They who think 'em tedious, may forbear to read 'em, and indeed we have already given 'em that caution at the beginning, that they may have no reaſon to complain, ſince it is at their own choice to read or let 'em alone.

Nor did we think it neceſſary to mind the diſguſt of ſome perſons that abhor certain terms of Art, fram'd only to retain more eaſily the ſeveral figures of Argumentation, as if they were ſome Charms in Magic, and frequently

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ſpend their inſipid jeſts upon *Baroco* and *Baralipton*, as being too Pedantical; for we look'd upon their *Puns* to be more Pedantical then the words; for there is nothing ridiculous in the Terms, provided they be not ador'd for too great Miſteries, for it would be very abſurd indeed for a Man that was going to diſpute, to admoniſh his opponent before-hand that he intended to diſpute in *Baroco* or *Felapton*.

Men ſometimes make an ill uſe of that reproach of *Pedantry*, and ſometimes fall into it themſelves. while they lay it upon others. *Pedantry* is a Vice of the Mind not of the Profeſſion; for there are Pedants in all habits, of all conditions, and all qualities. To utter Law and mean things in bombaſt expreſſions, to bring in *Greek* and *Latin* by head and ſhoulders, to be in a pelting chafe about the order of the Attick Months, the habits of the *Macedonians* or ſuch like frivolous diſputes; outragiouſly to abuſe another, that is not of his opinion about a paſſage in *Sentonius*; or about the Etimologie of a word, as if his Religion and his Country lay at Stake; to endeavour to raiſe all the World againſt a Man, as a diſturber of the peace of Chriſtendom, that has not a venerable opinion of *Cicero*, as *Julius Scaliger* has endeavour'd to do againſt *Eraſmus*; to intereſt himſelf for the reputation of an antient Philoſopher, as if he were one of his neareſt Relations,

Relations, this is properly that which entitles a Man to *Pedantry*. But to make use of a term of Art ingeniously found out, for the ease of the Memory may be easily allow'd without any such reproach.

It remains that we should give a reason for omitting so many questions as are found in the common Logic-Books, as those which are handled in the *Prolegomenas*, universal *a parte rei*, *Relations*, and such like. To which it may suffice to answer, that they belong rather to *Metaphisicks* then to Logic, tho' that was not the principal reason that induc'd us so to do; for when we believe that such or such a thing may conduce to rectify the Judgment, 'tis not material to what Science it belongs. The ordering of various sorts of knowledg is as free as the ranging and methodizing Letters in a Printing-house, provided the method be natural. 'Tis sufficient that the thing inserted be serviceable to our use, and not to consider whether it be forreign, but whether it be proper, and therefore it is that you shall meet in this treatise with several things appertaining to *Physick*, and *Ethicks*, and as much *Metaphisicks* as are necessary to be known; tho' as for those things we do not pretend to have borrowed from any other person. Whatever may be serviceable to Logic appertains to it: and indeed it is a ridiculous thing to see how several Authors tor-

ment themselves, especially *Ramus* and the *Ramists*, tho' otherwise Men of sence, to bound the jurisdiction of every Science, and to keep 'em from entrenching one upon another, as if they were marking out the Limits of Kingdoms, or bounding the Prerogatives of Parliaments.

But that which induc'd us wholly to lay aside these School-questions was not barely their difficulty, and their being out of use; for we have handled several of the same nature; but because that having so many bad qualities, we thought they might be dispenc'd with, without offending any person, as being so little regarded or esteem'd.

For it behoves us to make a great difference between unprofitable questions, with which the writings of Philosophers are insignificantly stuff'd. Some there are sufficiently contemn'd by the Authors themselves; and others there are which are celebrated and authentick, and which are notoriously handled in the writings of persons otherwise of great esteem.

And therefore it seems to be a kind of obligation upon us, in reference to those celebrated and common Opinions, how false soever they may be thought to be, not to be ignorant of what has been said concerning 'em. We owe that Civility or rather that Justice, not to their falshood, which deserves it not, but to men prejudic'd against 'em, to prevent their rejecting what

what others value without Examination. It being but reaſonable to purchaſe at the trouble of underſtanding thoſe queſtions, the privileg to ſcorn 'em.

But there is a greater liberty allow'd in reference to the former, and thoſe Logical ones which we have thought fit to omit are of that nature: They have this convenience that they are of little Credit, not only in that part of the World where they are unknown, but even among thoſe that profeſs to teach 'em. No Man, God be thank'd, takes the part of *Univerſal a parte rei*, the *unities of Reaſon*, nor *Second Intentions*, and ſo we have no reaſon to fear leaſt any one ſhould be offended, for paſſing 'em over in Silence.

Nor will it be amiſs to advertize the Reader, that we have allow'd our ſelves a diſpenſation, not always to follow the rules of a Method altogether exact, as having ſet down many things in the *Fourth Part*, which relate to the *Second* and *Third*. But we did it of ſet purpoſe becauſe we thought it more proper to ſee in one and the ſame place, all that was neceſſary to render a Science altogether perfect, which is the main deſign of the method handled in the *Fourth Part*, and for that reaſon it was that we reſerv'd the diſcourſe of *Axioms* and *Demonſtrations* for that place.

And thus we have well nigh given ye a pro-

ſpect of our deſign in this Logic. Peradventure for all this there will be very few that will reap any advantage by it, becauſe it is not their Cuſtom uſually to practice Precepts by expreſs Reflections. Nevertheleſs we hope that they who will carefully peruſe theſe Sheets, will receive ſuch a Tincture from thence, as will render 'em more exact and ſolid in their Judgment before they perceive it; as there are certain remedies that cure the Diſeaſes of the Body by augmenting and fortifying the vigour of the Parts. However it be; the Treatiſe will be no long trouble to any one; for they who are but a little before hand in the World of Learning may read and con it in ſeven or eight days, and it is a hard caſe, if in a Treatiſe that contains ſo much variety; they do not find ſomething ſufficient to repay their trouble.

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THE SECOND DISCOURSE

Containing an Anſwer to the Principal Objections made againſt this Logic.

THEY who adventure to impart their Works to publick view muſt reſolve at the ſame time to have as many Cenſurers as Readers. Nor ought this Condition to appear either unjuſt or burthenſom. For if they are really uninterreſted, they ought to have abandon'd their propriety in making the thing publick, and from that time look upon it with the ſame indifference, as upon the Works of a Stranger.

The only right that they can reſerve to themſelves is that of correcting what ſhall be found defective, to which end thoſe various Cenſures that are made of Books, are very advantageous. For they are always profitable when they are juſt; and when unjuſt, they do no harm.

Nevertheleſs Prudence ſometimes requires

that upon ſeveral Occaſions we ſhould ſubmit to Cenſures not always altogether ſo juſt; for though they do not make appear the thing reprov'd to be bad, they ſhew us at leaſt that it is not proportionable to the Underſtanding of thoſe that find fault. Now it is better without doubt, if it may be done without falling into any greater inconvenience to chuſe a temperature ſo juſt, as in ſatisfying the judicious, not to diſpleaſe thoſe whoſe judgments are not ſo exact; ſince 'tis not to be ſuppos'd that all our Readers will be men of Wit and Intelligence.

Thus, it were to be wiſh'd, that men would not look upon the firſt Editions of Books, but as rude Eſſays which the Authors propoſe to the Learned to underſtand their Sentiments of the Compoſition; to the end that by a Collection of various thoughts and Cenſures, they may endeavour upon a ſecond review to bring their work to perfection to the utmoſt of their Capacities.

And this is the Courſe we would willingly have taken in the *Second Edition* of this Logic; had we heard more then what the World had already ſaid of the former. Nevertheleſs we have done what we could: as having added, ſtruck out, and Corrected ſeveral things according to the thoughts of thoſe who were ſo kind as to let us know their objections.

And firſt of all for the Language, we have almoſt

almoſt in every thing follow'd the advice of two Perſons, who gave themſelves the trouble to obſerve ſome faults that were crept in through inadvertency: and certain Expreſſions which they thought were not properly choſen. Nor did we adhere to their Opinions till by Conſultation with others, we found that all their Opinions agreed. In which caſe we thought we might be allow'd our Liberty.

The Reader will find more Additions then Alterations or Retrenchments; not being duly inform'd of the faults that were found in what was already done. However tis true that we underſtood of ſome general Objections that were made againſt the Book, which we thought no Let to our farther Progreſs; believing that they themſelves who made 'em, would eaſily be ſatisfy'd, when we ſhould give our Reaſons for what we did. For which Cauſe, it will not be amiſs to return an anſwer to the cheifeſt of thoſe Objections.

Some there were offended at the Title, *Of the Art of Thinking*, inſtead of which they would have had, *The Art of well Reaſoning*. But we deſire 'em to conſider, that in regard the aim and deſign of Logic is to give Rules for all the Actions of the Underſtanding and as well for ſimple *Ideas*, as for Judgment and Arguments, there was no other word that comprehended all thoſe different Actions; whereas the word *Thought* comprehends 'em all. Simple *I-*

deas are thoughts; *Judgments* are *thoughts*, and *Arguments* are *thoughts*. True it is, a man might have ſaid the Art of *well thinking*; but that Addition was not neceſſary, being ſufficiently imply'd by the word *Art*, which ſignifies of it ſelf a method of doing any thing well. And therefore it is enough to ſay *the Art of Painting*, *the Art of Numbring*; ſince no man ſuppoſes it to be an Art to Paint ill, or miſtake in caſting accompts.

There is another Objection againſt that multitude of things drawn from other Sciences diſcours'd of in this Logic. Which becauſe it aſſaults the whole deſign, and gives us an occaſion to explain our ſelves, it is neceſſary to examine with ſo much the more care. To what purpoſe ſay they, all this motley, variety of *Rhetoric*, *Ethics*, *Phyſic*, *Metaphyſics*, and *Geometry*? When we thought to meet only with Logical Precepts, we are tranſported of a ſuddain into the Upper Region of the moſt lofty and notional Sciences, before the Author know whether we underſtand 'em or not. Rather ought he not to have conſider'd, that if we had all thoſe Sciences already perfect, we ſhould have no need of his Logic? And had it not been better for him to have given us a plain and down-right Logic with Rules explain'd by Examples drawn from common Things, then to encomber 'em with perplex'd and intricate Notions.

But

But they who argue thus have not ſufficiently conſider'd, that the greateſt diſadvantage to a Book is not to be read; ſince it can only be ſerviceable to thoſe that read it. And ſo whatever contributes to cauſe a Book to be read, contributes to render it uſeful. Now it is certain that had I gratify'd their fancies, and made a dry barren Logic with the uſual Examples of *Animal* and *Horſe*, how exact ſoever and methodical it might have been, it would have only augmented the number of ſo many other Books, of which the World is full, and which are therefore never read. Whereas it is this Collection of different Things that has procur'd the Sale of this, and caus'd it to be with leſs annoyance and diſtaſt then others.

Nevertheleſs this was not the Principal Aim we had in this mixture; for we are apt to believe we have follow'd the moſt natural and moſt uſeful way of handling this Art, by applying a remedy as much as in us lay to an inconvenience that rendr'd the Study of it almoſt fruitleſs.

The Experience ſhews us, that of a thouſand young men that Learn Logic, there are hardly ten that know any thing of it, ſix months after they have performed their Exerciſes. Now the real cauſe of this ſo frequent either forgetfulneſs or negligence ſeems to be this, for that all the

the Subjects treated of in Logic, being of themſelves abſtracted and remote from uſe, the examples alſo by which they are explain'd are no way taking, and ſeldom diſcourſt of otherwhere; ſo that making no impreſſion upon the fancy, they are with the greater difficulty retain'd in memory, which ſuddenly loſes all the *Ideas* it had a while ago conceiv'd.

Moreover finding theſe common Examples not ſufficient to prove that the Art it ſelf may be appli'd to any thing uſeful, they accuſtom themſelves to immure Logic within it ſelf, not ſuffering it to extend any farther; whereas Logic was invented to be ſerviceable as an Inſtrument to the reſt of the Sciences; ſo that having never ſeen its true uſe, they never make any uſe of it, but are glad to be rid of it, as of a mean and unprofitable Knowledg.

For remedy of which Inconveniency, we thought it the beſt way not to ſeperate Logic, according to the uſual cuſtom, ſo far from the reſt of the Sciences, for the Service of which it was deſign'd, but to join them together both the one and the other by the means of Examples drawn from ſolid Reading, ſhewing at the ſame time both the Rules and the Practiſe, to the end that ſo the Schollar may learn to judg of thoſe Sciences by Logic, and retain Logic in his memory by the help of the Sciences.

So

So that this variety is ſo far from being a means to darken theſe precepts, that nothing can contribute more to brighten and explain them; for of themſelves they are too ſubtil to make any Impreſſion upon the Mind, if there be not ſomething to make 'em pleaſing and acceptable to the Fancy.

Therefore to render this mixture the more acceptable, we have not borrow'd examples at a venture from thoſe Sciences, but have made choice of the moſt important Points of truth, and which might be moſt ſerviceable to the Rules and Principles to find out the truth in other matters, which could not be handled at the ſame time.

For Example, as to what concerns Rhetorick, we conſider'd that there is little advantage to be drawn from that Art, for the finding out of thoughts, expreſſions, and embelliſhments. Our wit furniſhes us with thoughts; Uſe affords us Expreſſion, and for figures and ornaments they are many times ſuperfluous; ſo that all the Benefit from thence conſiſts in avoiding certain evil habits of writing and ſpeaking, eſpecially an Artificial and Rhetorical Stile compos'd of falſe Imaginations, *Hyperboles*, and forc'd Figures, the moſt unpardonable of all Vices in an Oratour. Now perhaps you will find in this Logic, as much Information for the knowing and avoiding thoſe defects, as in thoſe Books that

that expreſly handle that Subject. The laſt Chapter of the *Firſt Part*, ſhewing the nature of figured Stile, at the ſame time ſhews the uſe of it, and diſcovers the true Rule by which you may know *Legitimates* from *Spurious* Figures. The Chapter where we treat of *Places* in general may very much avail to prune off the ſuperfluous abundance of vulgar Arguments. That article wherin are mark'd out falſe and ill-cohering Ratiotinations, into which the Vain-glory of long and ornamental Haranguing frequently engages many, while it throws diſgrace upon all manner of falſhood, propoſes by the by, a moſt important Rule of Rhetorick, then which there is nothing more prevalent, to frame and adapt the Mind to a ſimple, natural and judicious Stile. Laſtly, where we are in the ſame Chapter caution'd to beware of provoking thoſe to whom we direct our Speech by ſharp and biting Language, we are alſo taught to avoid ſeveral Errors which are therefore ſo much the more dangerous, by how much they are moſt difficult to be obſerv'd.

As for *Ethics*, the principal Subject of this Treatiſe would not permit us to inſert more then we have done; nevertheleſs I am apt to believe by what is ſet down in the Chapter of falſe *Ideas*, of *Good* and *Evil*, in the *Firſt Part*, as alſo in that other Chapter of fallacious arguing that happens in civil converſe, that Men may

may ſee the large extent of it, and how it conduces to diſplay a great part of human Irregularities.

There is nothing in *Metaphyſics* more conſiderable than the Original of our *Ideas*, and the ſeperation of Spiritual *Ideas*, from Forms Corporeal. The diſtinction of the Soul from the Body, and the proofs of it's Immortality founded upon that diſtinction. All which things are largely handl'd in the *Firſt* and *Fourth* Part.

In ſeveral places alſo occur the greateſt part of the general Principles of *Phyſic*, which it will be no difficult thing to Collect together. From whence the Reader may be ſufficiently enlightn'd in what is moſt proper to be known concerning Ponderoſity, the ſenſible Qualities, Actions, the Sences, the attractive Faculties, the occult Vertues, ſubſtantial Forms, ſufficient to undeceive Us of an innumerable company of falſe *Ideas* which we ſuckt in from our Infancy to the prejudice of Truth.

Not that I however, becauſe here are many things to be learnt, would have the Reader neglect ſuch Books as expreſly treat upon thoſe Subjects, which are therefore carefully to be ſtudy'd. But we have conſider'd that there are certain Perſons, who may think this general and curſory knowledge of the Sciences ſufficient; and ſo it may be perhaps to thoſe that never

never intend to devote themſelves to the ſtudy of Divinity. For Theology requires an accurate knowledge of Scholaſtic Philoſophy, which is as it were it's Mother Language. Now though it is impoſſible they ſhould find all that they ought to learn in this Book, nevertheleſs I dare affirm they may find whatever is convenient to be laid up in the memory for Uſe.

As to what they object that there are ſome of the Examples that are not proportionate to the Capacities of young Beginners; they err in their affirmation, unleſs it be in reference to Geometry. For as for any of the reſt, they may be eaſily underſtood by all that are not altogether void of underſtanding, though they never learnt any thing of Philoſophy. Nay, perhaps they may be more eaſily underſtood by thoſe who are as yet free from all manner of prejudice, then by ſuch as are amply furniſh'd with the Maximes of Common Philoſophy.

As for the Examples of Geometry, 'tis very true they will not be underſtood by all the World; but where lies the inconvenience? For they are only brought where Geometry is expreſly, & by it ſelf, diſcours't of, and ſo may be paſs'd over without any harm; or at leaſt where the things are ſo clear of themſelves, that they need no illuſtration, or elſe are ſo explain'd by other examples, that the help of a Geometrician is no way requiſite.

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Beſides, if they examine the places where theſe Examples are made of; they will ſee that it was a hard matter to find others that were ſo proper: there being only this Science which is able to afford us clear Ideas and Propoſitions not to be controverted.

For Example, ſpeaking of Reciprocal Proprieties, we have affirm'd, that there is ſuch a Propriety in Rectangle Triangles, where the Square of the *Hypotennſe* is equal to the Squares of the reſt of the ſides. Which is clear and certain to all that underſtand it: They that do not apprehend it, may ſuppoſe it ſo to be; nor will they for that the leſs apprehend the thing it ſelf which the Example is brought to prove.

Again if we had been to produce the Common Example of *Riſibility*, which is the reciprocal Propriety of Man, certainly we had propos'd a thing not only very obſcure but very much controverted. For if we underſtand by *Riſibility*, a power of contracting and dilating the Lips, I know not why we may not teach Beaſts to imitate thoſe Motions of the Lips; and ſome we know there are that do ſo. But if we include within the ſignification of this word not only the change of the Countenance, but alſo the thoughts that accompany and produce it; and ſo by *Riſibility* mean a Power to Laugh, *by thinking*; in that manner all human Actions may be call'd reciprocal Qualities; there being none

none but what are proper to men, if we joyn 'em with *Thoughts*: And thus Walking, Eating, Drinking ſhall be call'd reciprocal Qualities of Men; ſince one Man Walks, Eats, and Drinks *thinking*. Which if it be granted, we ſhall never want Examples of Reciprocal Proprieties; which however will never ſatisfie thoſe, who attribute *thinking* to Beaſts, and who may as well allow 'em *Laughter* with *Thought*. Whereas the Example before alledg'd will not admit theſe Cavils as being certain and uncontroverted among all Men.

In another place we hinted that there are ſome Corporeal things which we apprehend after a Spiritual manner without the help of Imagination. And to confirm this we brought the Example of the *Chiliogon* or Thouſand Angl'd Figure. Which Figure we conceive clearly and diſtinctly in our minds, though the Imagination cannot from any delineation of it be ſo diſtinct as to diſplay it's Proprieties. Curſorily alſo we aſſerted that one of the Proprieties of this Figure was that all theſe Angles were equal to 1996 Right Angles. And it is apparent that this Example proves what we intended to make out in that place.

It remains that we clear our ſelves from an envious Complaint that ſome Perſons have made againſt Us, that we have taken out of *Ariſtotle*'s Examples of vitious definitions, and ill

ill cohering Argumentations; which ſeems to be done out of a ſecret deſign to deſtroy the Peripatetic Philoſophy.

But they had never pronounc'd ſo ſevere a Sentence againſt Us, had they conſider'd the Rules to be obſerv'd in citing of Examples of Errors, which however we have adher'd to in quoting *Ariſtotle.*

Firſt, Experience ſhews us, that thoſe which are vulgarly propos'd, are of little or no uſe, and difficult to be remembred, as being fram'd at pleaſure; beſides that the Errors are ſo palpable and ſo viſible, that a Man would think it impoſſible to ſtumble upon 'em. Therefore it is much more to the purpoſe, to the end that what is ſaid concerning thoſe Errors may be the more deeply retain'd in Memory, and the more eaſily avoided, to ſelect ſome notable example of the Errors, into which ſome celebrated Author has already fallen.

For finding the Reputation of great Men not free from noted ſlips, we are incited by Care and Induſtry to preſerve our ſelves from the like ſurprizes.

Moreover ſeeing every Man is bound to make what he writes as profitable as may be, therefore of ſet purpoſe thoſe examples of Errors are to be produc'd, of which it moſt imports us not to be Ignorant. For it

would be an endleſs toil to remember all the dreams and trifles of *Flud*, *Vanhelmont* and *Paracelſus*. And therefore it is better to ſearch examples in famous Authors, whoſe Errors it may be worth while to underſtand.

Now all this is to be found in *Ariſtotle* to a Hair's Breadth. For nothing can ſo effectually perſwade a Man to avoid a fault, as to ſhew that ſuch a Man as he, ſtumbled at the ſame Block. And his Philoſophy is become ſo famous through the vaſt number of deſerving Perſons that have embrac'd it, that there is all the reaſon in the World his defects ſhould be expos'd. Which being ſo, we thought it would be worth while for the Reader to take a review of the maxims of the Peripatetic Philoſophy, yet becauſe it is never good to be deluded, thoſe Maxims are ſo propos'd, that what they are may be eaſily known, as having curſorily mark'd out the defects, for farther detection of their fallacies.

Which we have not done to leſſen the Reputation of *Ariſtotle*; but rather to do him honour as much as may be done by thoſe that differ in opinion from him. And 'tis viſible in other places, that the points which are tax'd of errors, are of no great Importance, nor ſhake the foundations of his Philoſophy, which we had no Intention to aſſail.

But

But if we make no mention of thoſe things wherein *Ariſtotle* has excell'd in ſeveral of his Books, the reaſon was this, becauſe the ſeries of the diſcourſe did not afford an opportunity ſo to do; which however we would willingly and gladly have done, if occaſion had offer'd; nor had *Ariſtotle* wanted his due applauſe; who beyond all controverſy was a perſon of a capacious and ſearching Genius, upon which he relying, has link'd together long Chains of conſequences in ſuch matters upon which he diſcours'd: and therefore he has been very proſperous in what he has written in the ſecond Book of his Rhetorick concerning the Paſſions. Egregious alſo are his notions and obſervations which he has delivered in his Politicks, his Ethics, his Problems, and his Hiſtory of Animals: and as confus'd as his *Analtics* are, yet we muſt confeſs that almoſt all we know concerning the Rules of Logic, is taken from thence; ſo that there is not any Author from whom we have borrowed more then from *Ariſtotle* in this Logic, as one to whom the Body of the precepts belong.

True it is that the moſt imperfect of his Works ſeems to be his Phiſicks, as being alſo that which for a long time has been condemn'd and forbidden by the Church as a Learned Perſon has made appear in a Treatiſe written

to that purpoſe; though the principal fault of it was not that it was falſe, but that it was too true, and taught nothing but ſuch things as could not be conceal'd from our Knowledg. For whoever doubted but that all things were compoſed of matter, and a certain form of matter? Whether matter being to put on form did not want it before, that is to ſay, whether it did not ſuffer Privation? Or whoever queſtion'd thoſe other principles of his Metaphiſicks, wherein we are taught that all things depend upon form; that bare matter is void of action; that there are place, motion, faculties and qualities: But after all this, we do not ſeem to have learnt any thing new, or are we more able to give a reaſon of any of Natures Effects.

But if there be any perſons, a many there are, who believe it a Crime to diſſent from *Ariſtotle*, it will be no difficult thing to make it appear how far remote from Reaſon ſuch a vain aſſertion is.

For if we are oblig'd to reverence the memory of ſome Philoſophers, that is only for two Reaſons, either out of a proſpect of the truth to which they have adher'd, or for the Reputation which they have acquir'd among the Learned.

For the ſake of Truth we reverence 'em, when they keep cloſe to it; but truth does not

not require that we ſhould honour falſhood, in whomſoever it appears.

As for the conſent of Men in the approbation of a Philoſopher, certain it is, that 'tis a good reaſon for giving reſpect; nor can it be denied, but very imprudently, without great wearineſs. And the reaſon is, becauſe in contradicting the generality, we may be juſtly ſuſpected of Preſumption, as believing our ſelves more clear-ſighted then ſo many others.

But when the learned World is divided in their opinions, as to the worth of an Author, and that Perſons of Reputation appear on both ſides, we are not then oblig'd to that Reſervedneſs, and we may freely declare, what we approve, and what we diſlike in thoſe Writings about which the Learned are divided. For then we do not oppoſe our *Sentiments* againſt the *Senſe* of the Author and his Abetters, but ſide with thoſe that maintain the contrary Party.

And now behold the true Condition of *Ariſtotle* at this day. His Philoſophy has experienc'd both Fortunes, ſomtimes exploded and condemn'd by all; otherwhile receiv'd and applauded by all: at this day it is reduc'd into a middle Condition between the two Extreams. In *France*, *Flanders*, *England*, *Germany*, and *Holland* they write frequently for,

and againſt *Ariſtotle*'s Philoſophy. The *Pariſian* Conferences as well as their Writings are divided into two parts; nor does any one complain of this open War, declar'd againſt him. The moſt famous Profeſſors no longer condemn themſelves to that ſlavery of blindly receiving and maintaining whatever they find in his Books, and ſome of his Opinions are utterly exterminated; for what Phyſician will now maintain that the Nerves proceed from the Heart, as *Ariſtotle* believ'd, ſince Anatomy clearly demonſtrates now, that they derive ther Original from the Brain. Whence proceeded that ſaying of St. *Auſtin.*

Qui ex puncto cerebri & quaſi Centro omnes Senſus diffudit.

Who diffus'd all the Senſes from the point, and as it were the Center of the Brain.

And what Philoſopher dares be ſo obſtinate as to affirm, that the ſwiftneſs of ponderous things deſcending encreaſes proportionably to the proportion of their weight? When any Man may end this diſpute, by letting two ponderous Bodies never ſo unequal in proportion, fall from a high place; at what time he ſhall find very little difference in the ſwiftneſs of their Motion.

All things violent are of ſhort Continuance, and all extreams are violent. 'Tis very hard meaſure to proſcribe all *Ariſtotle's* opinions

pinions, as formerly has been done. On the other ſide it is an unreaſonable Servitude, for a Man to pledg his aſſent to all he has written, and to allow only him for the ſtandard of Philoſophy, as afterwards they went about to do. Men cannot long endure ſuch a Tyranny, but by degrees they will recover the Poſſeſſion of their rational liberty, which conſiſts in approving what they judg to be true, and rejecting that which they judg to be falſe.

For it does not ſeem contrary to Reaſon, that Reaſon ſhould ſubmit to Authority in Sciences, which treating of things above Reaſon, are bound to follow another Light, which is that of Divine Authority. But in Sciences that depend upon the ſupport of Reaſon; Reaſon acts well and by her own Precepts, when ſhe decrees that there is no Obedience to be given to the Authority of Philoſophers againſt Reaſon.

This is the Rule, which we have follow'd in diſcourſing the Opinions of the Philoſophers, as well antient as modern, we have ſought for Truth in both, neither eſpouſing the quarrel of any Sect, nor bidding battle to any.

So that all that is to be concluded, when we reject the Opinion of *Ariſtotle*, or any other is only this, that in ſuch a point we diſſcent from; not, that we do not conſent in o-

thers; much leſs that we have any averſion againſt 'em; or ſeek to degrade or leſſen their worth. And this modeſt Procedure of ours we hope will be approv'd by all juſt Judges, and that they will acknowledg, that there is nothing in the whole world, but a ſincere deſire to contribute to the Publick Good, as far as lyes in the Power of a Treatiſe of this nature, without Paſſion or Hatred againſt any Perſon Living.

LOGIC;

LOGIC;
OR THE
ART
OF
THINKING.

LOGIC is the Art of well uſing Reaſon in the knowledge of Things for the inſtruction as well of a mans ſelf, as of others.

This Art is deriv'd from the Reflexions which men have made upon the four Principal Operations of the mind, *Apprehenſion*, *Judgment*, *Diſcourſe*, and *Diſpoſition*.

We call *Apprehenſion* the ſimple Contemplation of Things that preſent themſelves to the Mind,

Mind, as when we conſider the *Sun*, the *Earth*, a Tree, Rotundity, a Square, Cogitation, Entity, pronouncing nothing expreſly concerning 'em; and the form under which we conſider 'em is call'd an *Idea*.

We call *Judgment*, that Action of the Mind, by which aſſembling together ſeveral *Ideas*, we either deny or affirm this to be That. Thus conſidering the *Idea* of the *Earth*, and the *Idea* of *Round*, we affirm or deny the *Earth to be round*.

Diſcourſe we call that Operation of the Mind, by which out of ſeveral Judgments we frame another: Thus when we have judg'd that true Vertue ought to be referr'd to God, but that the *Pagans* did not refer it to God, from thence we infer that the Vertue of the *Heathens* was not true.

We call *Diſpoſition* that Action of the Mind, by which we range various *Ideas Judgments*, and *Ratiocinations* upon one and the ſame Subject; in that Order which is moſt proper for it's Explanation; and this by another Name we call Method.

Theſe Operations proceed meerly from Nature, and that ſometimes more perfectly from thoſe, that are altogether ignorant of Logic, then from others that have learn't it. So that it is not the buſineſs of this Art to find out the way to perform theſe Operations, for

for that we have from Nature alone, that has given us the uſe of Reaſon, but rather to make certain Animadverſions upon thoſe things which Nature her ſelf operates in us, which may be of a threefold uſe to us.

Firſt we are thereby aſſur'd, that we make a right uſe of our Reaſon. For the Conſideration of Rules begets in us a more fervent Application and attentive Induſtry of the Mind.

The Second is, that thereby we more eaſily detect and explain the Errours and Defects which we meet within the Operations of the Mind. For oftentimes it falls out, that we diſcover by the meer Light of Nature the faults of Ratiocination, yet are not able to give a reaſon why it is falſe. Thus they who know not what belongs to Painting, may take exceptions at the defects of a Picture; tho' they are not able to tell the reaſon why they find fault.

The third is that we are brought to a more accurate knowledge of the nature of our Underſtanding by theſe Reflections upon the Operations of the Mind. Which, if we look no farther then meer Speculation, is to be preferr'd before the knowledge of all Corporeal Things, which are infinitely below Spiritual Conſiderations.

Now ſuppoſing thoſe things, which we revolve

volve in our Minds, in reference to our own Thoughts, were only done with reſpect to our ſelves, it would ſuffice to conſider 'em in themſelves, not cloath'd with words or any other ſigns: but in regard we cannot manifeſt our thoughts to others but by the benefit of exterior Marks; and for that this Cuſtom is ſo prevalent, that when we meditate alone, the Things themſelves do not preſent themſelves to our Thoughts, but in the cloathing of thoſe words by which we expreſs 'em to others, it is neceſſary for Logic to conſider *Ideas* joyn'd to words, and words joyn'd to *Ideas*.

And thus by what we have ſaid it follows, that Logic may be divided into four Parts, according to the ſeveral Reflections which we make upon the four Operations of the Mind.

FIRST PART.

Containing Reflections upon Ideas or upon the firſt Operation of the Mind which is call'd Apprehenſion.

SINCE we cannot have any knowledge of what is without us, but by the aſſiſtance of *Ideas* which are within us, what we ſhall

ſhall diſcourſe of *Ideas* may be thought perhaps to be the moſt important Part of Logic, as being the foundation of all the reſt.

We may reduce theſe Reflections to five Heads, according to the five ways of conſidering *Ideas*.

1. According to their Nature and Original.

2. According to the Principal difference of the Objects which they preſent.

3. According to their being ſingle or compound; where we ſhall treat of *Abſtractions* and *Preciſions* of the Intellect.

4. According to their Extent or Reſtriction; that is to ſay, their Univerſality, Particularity, or Singularity.

5. According as they are clear and obſcure, diſtinct or confus'd.

CHAP. I.

Of Ideas, *according to their Nature and Original.*

THE word *Idea* is of the number of thoſe words which are ſo clear, that they need not to be explain'd by any other; there being no other more clear and ſimple.

So

So that all that can be done in this caſe to avoid errour and miſtake, is to obſerve the falſe notions and interpretations that may be attributed to this word: while ſome make uſe of it only to ſignifie that manner of conceiving, which is perform'd by the application of the Mind to thoſe Forms that are depainted in our Fancies, and is call'd *Imagination.*

For as St. *Auſtin* obſerves, Man ever ſince his fall has been ſo accuſtom'd to contemplate Corporeal *Things*, the forms of which enter through our Sences into our Brains, that the moſt part believe they cannot apprehend a thing, when they cannot imagine it, that is, contemplate it as a *Thing* Corporeal: As if Man had no other way to think or apprehend.

Whereas no man can make a Reflection upon what occurs to his *Thoughts*, but he muſt acknowledg, that he conceives many things altogether deſtitute of Corporeal Form; and finds a difference between *Imagination* and perfect underſtanding. As for example, when I imagine a Triangle, I do not contemplate it only as a Figure conſiſting of three Right Lines; but I alſo conſider thoſe three Right Lines as preſent by the force and internal Application of the Mind; and this is properly to *imagine.* Or if I would think of a Figure with

with a Thouſand Angles, I preſently apprehend that it is a Figure conſiſting of a Thouſand Sides, as eaſily, as I apprehend a Triangle to conſiſt of three Sides; but I cannot imagine the Thouſand ſides of that Figure, nor behold 'em as being preſent, with the Eyes, as I may ſo ſay, of my mind.

Nevertheleſs, 'tis very true, that the dayly practice of *Imagination*, in apprehending Corporeal things is the reaſon, that oft times, when we imagine a Figure of a thouſand Angles, we form in our *Thoughts* ſome confuſed Figure or other. But it is evident that the Figure thus form'd by the aſſiſtance of *Imagination*, is not a Figure of a Thouſand Angles; as nothing differing from that form, which any one would frame in his *Thoughts*, were he to imagine a Figure of ten Thouſand Angles; as alſo for that it is no ways ſerviceable to diſcover the Proprieties that made the difference between a Figure of a Thouſand Angles from any other *Polygon.*

And therefore I cannot properly imagine a Figure of a Thouſand Angles, for that the Figure which I would frame in my *Imagination* would repreſent to me any other Figure with a great Number of Angles; and yet I can very clearly and diſtinctly conceive it, as being able to demonſtrate all it's proprieties; as that all the Angles together are equal to

1996.

1996. Right Angles. And thus by conſequence it is one thing to *imagine*, another thing to *apprehend*.

This is yet more evident by the Conſideration of many things which we clearly apprehend, and yet can no way in the World attain 'em by *Imagination*. For what do we apprehend more clearly, then our *thought* when we *think*? Nevertheleſs, it is impoſſible to *imagine* a *thought*, nor to delineate any form of it in the Brain. What forms of the Particles of Affirmation, *Yes*, and Negation, *No*, can be deſcrib'd in the Fancy. Yet both he that denies, and he that affirms the *Earth* to be round have the ſame expreſs *Imaginations*, *Earth*, and *Rotundity*. To theſe the one adds Affirmation, which is an Action of the Mind, which conceives without any Corporeal form; the other adds a Negative, which is another Action of the Mind, and much more incapable of a formal deſcription.

When we ſpeak then of *Ideas*, we do not call by that name thoſe Images that preſent themſelves to the Fancy, but whatever offers it ſelf to our *thoughts*; at what time we may truly affirm, that we apprehend a certain *Thing*, after whatever manner we apprehend it.

Whence it follows that we can expreſs nothing

thing in words, ſo that we underſtand what we ſay, but that it is evident from thence, that we have in our ſelves the *Idea* of the thing ſignifi'd by our words; though that *Idea* may happen to be ſometimes more plain and diſtinct; ſometimes more obſcure and confus'd, as we ſhall declare hereafter. For he would contradict himſelf that ſhould affirm he knew what he meant by the words which he pronounces, and yet at the ſame time that he pronounces 'em, ſhould underſtand nothing but the ſound of thoſe words.

And this is that which ſhews us the falſity of two Opinions broach'd by the Philoſophers of theſe Times.

The firſt is, that we have no *Idea* of God. For if we had none, in pronouncing the word *God*, we ſhould apprehend no more then the three Letters *G*, *O*, D, and he that only ſpeaks *Engliſh*, would have no more in his *thoughts*, when he hears that word pronounc'd, then if he ſhould come into a Synagogue not underſtanding a tittle of *Hebrew* and hear the names of God *Adonia* or *Elohim*.

Moreover when ſome men would be call'd Gods (which was the Frenzie of *Caligula* and *Domitian*) there could be no Crime of Impiety laid to their charge, for that there is nothing in the three Letters *G*, *O*, *D*, or the

two Syllables *De-us* which may not be attributed to a Man, abſtracting the *Idea* from the word: For which reaſon the *Hollander* was never tax'd with Impiety, who call'd himſelf *Ludovicus De-us*. What was then the Impiety of thoſe Princes, but that they left at leaſt a part of it's *Idea* to the word *Deus*, ſo that it ſignifi'd that tranſcendent and adorable Nature of a Deity, and appropriated to themſelves both the Word and the *Idea*.

But had we not the *Idea* of God, upon what could we ground all that we ſay of God? As that he is *One*, that he is *Eternal*, *Omnipotent*, all *Mercy*, and all *Wiſdom*. Of which there is nothing comprehended in the ſound of the word *God*, but in the *Idea* which we have of *God*, and which we joyn to the ſound of the word.

And hence it is that we refuſe the name of God to all falſe Divinities; not but that the Word might be attributed to 'em, being tak'n materially; but becauſe the *Idea* which we have in our ſelves of the Supreme *Being* and which we have annex'd to the word *God*, belongs only to the *True God*.

The ſecond of theſe falſe Opinions is what an *Engliſh* man aſſerts, *That Ratiocination is nothing elſe but a Connexion and Chain of names linkt together by the word*, Eſt, *it is*. *Whence it fol-*

follows, that by reaſoning we can conclude nothing of the nature of Things, but only concerning their Appellations; That is to ſay, that we barely ſee whether we aſſemble together well or ill, according to the Covenants we have made with our Fancy concerning their ſignifications.

To which the ſame Author adds, *If this be true, as it may be it is, reaſoning will depend upon words, words upon imagination, and imagination perhaps, and which is my Opinion, will depend upon the motion of the Corporeal Organs; and ſo our Soul will prove no other then the motion of ſome parts of the Organical Body.*

We are willing to believe that theſe words contain an Objection far remote from the Sence of the Propoſer; but in regard that being ſo Dogmatically expreſs'd, they ruin the Immortality of the Soul, it will be of great importance to lay open the fallacy of the Objection; which it will be no difficult thing to do. For the *Covenants* of which the Philoſopher ſpeaks, can be no other then the conſent of men to take certain ſounds for ſigns of thoſe *Ideas* exiſting in our Minds. So that if we had not beſides the Names, the *Ideas* of *Things* in our ſelves, thoſe Covenants would have been impoſſible; as it is impoſſible by any ſuch Covenant to make a blind man underſtand what is meant by the words, *Red*, *Green*, or *Blew*. For not having theſe *Ideas*

in his Mind, he cannot joyn 'em to the ſound.

Moreover ſeveral Nations having given different Names to *Things*, even to thoſe that are moſt apparent and ſimple, as are thoſe which are the Objects of Geometry, they could not diſcourſe in the ſame manner of the ſame Truths, if diſcourſe were nothing but a Connexion of names by the word, *Eſt*, *it is*.

And ſince it appears by this variety of words that the *Arabians* (for example ſake) do not agree with the *Engliſh* about the ſame ſignification of Names, ſo could they never agree in judgment or diſcourſe, if their Diſcourſe depended upon that Covenant.

Laſtly, when we ſay that the ſignification of words are *Arbitrary* or *ad placitum*, we ſtick deep in Equivocation. For it is true that it is a thing altogether *Arbitrary* to joyn this *Idea* to that Sound, rather then another. But *Ideas* are not *Arbitrary* things that depend upon our Fancy, more eſpecially thoſe that are evident and diſtinct: Which that we may make manifeſt we ſay, that it would be very ridiculous to think that real Effects could depend upon *things* purely *Arbitrary*. Now when a man has concluded by his Reaſon, that the Iron Axel that paſſes through the two Mill-ſtones of a Corn-Mill could turn about,

about, without turning the lower Mill-ſtone, if being round it paſs'd through a round hole; but that the ſame Axle could not turn without turning the upper Mill-ſtone; if being ſquare, it were faſtn'd in a ſquare hole of the upper Mill-ſtone; what he has undertaken to prove undenyably follows. And by conſequence this Diſcourſe is not a Connexion of Names according to a Covenant entirely depending upon the Fancy of men; but a ſolid and concluſive Judgment of the Nature of Things by the conſideration of *Ideas*, which men have been pleas'd to denote and ſignifie by certain Names.

Thus much as to what we underſtand by the word *Idea*; we are now to ſay ſomething concerning their Original.

And now the Queſtion is, whether our *Ideas* proceed from the Senſes, and whether that common Maxim be true; *There is nothing in the Intellect, which was not firſt in the Senſe.*

This is the Opinion of a Philoſopher of Great Reputation in the World, who begins his *Logic* with this *Propoſition*; *Every Idea derives it's Original from the Senſes.* He confeſſes however that all *Ideas* are not the ſame in our Senſes, as they are in the mind. But he pretends that they were at leaſt form'd out of thoſe that paſt through our Senſes, either by

compoſition; as when out of the ſeparate *Ideas* of *Gold*, and a *Mountain*, we make a *Mountain of Gold*; or by *Amplification* and *Diminution*, as when out of the *Idea* of a Man of *Ordinary Stature*, we make a *Giant*, or a *Pigmee*; or by *ſimilitude* and *Proportion*; as when out of the *Idea* of a Houſe we have ſeen, we make the Delineations of a Structure that we have not ſeen: And thus, ſaith he, we apprehend God, who is above the reach of Senſe, under the ſhape of a venerable Old Man.

But according to this Doctrine, it would follow, that all our *Ideas*, tho' relating to no particular Object that ever approach'd our Senſes: muſt be all Corporeal, and repreſent nothing to us, but what has paſt at leaſt by parts, through our Senſes: and conſequently that we can conceive nothing but by the help of Images, like thoſe which are form'd in the Brain when we ſee, or imagine Bodies.

But tho this Opinion be maintain'd by other School Philoſophers as well as himſelf, I ſhall not ſcruple to affirm that it is very abſurd, and as contrary to Religion as to true Philoſophy. For to ſpeak nothing but what is evident, what is there that we conceive more diſtinctly then our thoughts themſelves? What propoſition clearer then this, *I think, therefore I am*? However we can never be certain

certain of the truth of this Propoſition, unleſs we underſtand diſtinctly what it is to *Be*, and what to *think*. Neither is it to be requir'd from us to explain theſe terms any farther; becauſe they are ſuch that Men ſo clearly underſtand, that a copious explanation would but render 'm more obſcure. If then it cannot be denied but that we have in our ſelves the *Ideas* of *Entity* and *Thought*, I ask, through what door of the Senſes they enter'd into the Mind? Are they *Ideas* of Light or Colours to enter through the *Sight*? Are they ſhrill or deep ſounds to make way through the *Ear*? Are they Odoriferous or noiſom to enter the *Smelling*? Are they ſavory or nauſeous to enter the *Taſte*? hot or cold, ſoft or hard, to glide through the Feeling. If it be ſaid they were form'd of other ſenſible Images, let 'em demonſtrate what thoſe ſenſible Images are, from vvhence theſe *Ideas* of *Entity* and *Thought* proceeded; as alſo hovv they were form'd, whether by *Compoſition*, or by *Amplification*, by diminution or proportion; for if they cannot anſwer agreably to Reaſon, it muſt be taken for granted, that the *Ideas* of *Entity* and *Thought* are far from any way deriving their Original from Senſe; but that our Soul is endu'd with a Faculty to form 'em of her ſelf, though it may happen ſometimes, that ſhe may be incited to make

uſe of ſomething that ſtrikes the Sence. As a Painter may be induc'd to paint a Picture for the price that is promis'd him; and yet it cannot be ſaid that the picture drew its Original from the Money.

But what the ſame Authors add, that the *Idea* which we have of God, draws its original from Sence, becauſe we apprehend him under the *Idea* of an Old-Man, is a thought unworthy any other then the *Anthropomorphites*, and which confounding the true *Ideas* that we have of Spiritual things with the falſe Imaginations that we conceive of thoſe Sublimites out of an evil cuſtom, of imagining all things amiſs; whereas it is as abſurd to pretend to imagine that which is not Corporeal, as to hear Colours, and ſee Sounds.

To refute this opinion, we need no more then conſider, that if we had no other *Idea* of *God*, then of a venerable Old-Man, all thoſe other Judgments which we make of that *Idea* ought to appear falſe to us, that are contrary to that *Idea*; for we are naturally induc'd to believe that our judgments are falſe, when we clearly ſee that they are contrary to the *Ideas* which we have of things. Otherwiſe we ſhall never be able to conclude certainly that God does not conſiſt of parts, that he is *Incorporeal*, *Omnipreſent*, and *Inviſible*, when all thoſe *Ideas* are

no

no way agreeable to that of a venerable Old Man. And if God had at any time ever appear'd in that form, it does not preſently follow that we ſhould have no other *Idea* of him but that; for ſo we ſhould have no other *Idea* of the *Holy-Ghoſt* then that of a *Dove* becauſe he once appear'd in that Shape, as God in the ſame manner might be conceiv'd to be a *Sound*, becauſe the ſound with which the Name of God is pronounc'd, awakens the *Idea* of God in our Minds.

It is therefore falſe that all our *Ideas* proceed from the Senſe: rather it may be affirmed on the other ſide, that none of thoſe *Ideas* that enter our Minds, deduce their Original from the Senſes unleſs by accident, that is when the motions ſtirr'd up in the Brain, which is all the Senſes can do, give an occaſion to the Soul to produce true *Ideas*, which it would not otherwiſe do; tho' for the moſt part thoſe *Ideas* are nothing like the other that are form'd in the Sence and in the Brain; and beſides the greateſt number of *Ideas* being ſuch, as not having any mixture of Corporeal form, cannot without a moſt manifeſt abſurdity, be referr'd to the Senſe.

If any one object that at the ſame time that we have an *Idea* of ſpiritual things, as of *Thought* (for examples ſake) we entertain alſo a certain Corporeal Image of the ſound

that

that expreſſes it, they averr nothing contrary to what we have alreadly prov'd; for that form of the Sound which is preſent in the imagination is not the Image of the *Thought*, but of the Sound; nor does it ſerve to repreſent it otherwiſe, then as the Soul being accuſtom'd when ſhe hears this Sound, to conceive the thought, forms at the ſame time an *Idea* of thought, altogether Spiritual; which has no reference to the *Idea* of Sound, but as only annexed to it by Cuſtom; Which is apparent in Deaf people, who have no *Ideas* of Sound, yet have the *Ideas* of their thoughts, at leaſt when they reflect upon their thoughts.

CHAP. II.

Of the Objects of Ideas.

WHatever we conceive, is repreſented to our Minds, either as a *Thing*, or a *manner of a Thing*, or as a *thing modified*.

I call that a *Thing* which is conceiv'd to conſiſt of it ſelf, and as the Subject of all thoſe things that are comprehended in it, which by another name is call'd *Subſtance*.

The *Manner*, *Attribute*, or *Quality* of a *Thing*, I call that, which when it is conceived to be comprehended in the Subſtance, and

not

not to be able to ſubſiſt without it, determines it to exiſt after a certain manner, and gives it a certain denomination.

A *Thing modified*, I call a ſubſtance, as it is determin'd by a certain mode or manner.

All which things will be apprehended more clearly by Examples.

When I conſider a Body, the *Idea* of it repreſents to me a Thing or Subſtance: becauſe I conſider it as a thing ſubſiſting by it ſelf, and which has need of no other to exiſt.

But when I conſider this Body to be *round*, I conſider a *Round-Body*, and this *Idea* repreſents to me the *Thing Modified*.

The names which are uſed to expreſs theſe things are called Subſtantives, or abſolute, as *the Earth*, *the Sun*, *the Soul*, *God*.

Thoſe alſo that primarily and directly ſignify the *Modes* or *Manners*, becauſe they have ſome Correſpondence with Subſtantives, are call'd Subſtantives and Abſolutes, as *Hardneſs*, *Heat*, *Juſtice*, *Prudence*, &c.

Such names as ſignifie the *Things* as *Modified*, marking out primarily and directly the *Subſtance*, tho' more confuſedly, and indirectly the *Manner*, tho' more diſtinctly, are call'd *Adjectives*, and *Connotatives*, as *Round*, *Hard*, *Juſt*, *Prudent*.

But

But here we are to obſerve that the Mind being accuſtom'd to know moſt things as *Modified* (in regard ſhe attains not the knowledg of 'em but only by accident, or by thoſe qualities that ſtrike the Senſes) often divides one eſſence of a *Subſtance* into two *Ideas*, of which the one ſhe takes for the *Subject*, the other for the *Mode*. Thus altho there be nothing in God, which is not God himſelf, yet we apprehend him as an *Infinite Being*; and with us *Infinite* is the Attribute of God, as *Being* the Subject of the Attribute. Thus alſo we conſider Man as the Subject of Humanity, or having Humanity, and conſequently as a *Thing Modified*.

And then the eſſential Attribute, which is the thing moſt it ſelf, is apprehended by the *Manner* of the *Manner*, becauſe it is as it were inherent in the Subject. And this is call'd the Subſtantive Abſtrafted, as *Humanity*, *Corporeity*, *Reaſon*.

Nevertheleſs it is of great Importance to diſtinguiſh that which is truly the Mode from that which onely ſeems to be ſo, For the Confounding of *Manners* with Subſtances, and Subſtances with Manners is the chief ground of all our Errors. Therefore the Nature of the true Mode is ſuch, that the Subſtance of which it is the *Manner*, may be clearly and diſtinctly conceiv'd without it; but the manner

ner cannot be alternately clearly conceiv'd; unleſs the Relation which it has to it's Subſtance be as readily apprehended, without which it cannot naturally exiſt.

Not but that we may apprehend the *Manner*, without ſuch an exact and diſtinct conſideration of the Subject. But that which demonſtrates that the Relation of the *Manner* to the *Subject*, is contain'd, at leaſt, confuſedly in it's conception; becauſe we cannot deprive the *Manner* of that *Relation*, but that we muſt deſtroy the *Idea* of it at the ſame Time. Whereas when we conceive two *Subſtances*, we may deny one thing of the other; yet never deſtroy the *Ideas* of either.

For example, I may deny *Prudence*, without conſidering the Man, who is prudent; but I cannot conceive *Prudence*, and at the ſame time deny the Relation, which it has to *Man*, or any other intelligible Nature capable of *Prudence*.

Contrariwiſe, when I conſider what appertains to an extended Subſtance, which is call'd a Body, as *Extenſion*, *Figure*, *Mobility*, *Diviſibility*, and on the other ſide whatever belongs to the Mind, as Thinking, Doubting, Memory, Will, Diſcourſe, I may deny all that of the *Extended Subſtance*, which I conceive belongs to the *Thinking Subſtance*, and yet diſtinctly apprehend the *Extended Subſtance*, and all

all the Adjuncts that belong to it. And I may reciprocally deny of the *Thinking Subſtance*, whatever I apprehend of the *Extended Subſtance*, without conſidering what I have conceiv'd of the *Thinking Subſtance*.

Which alſo proves, that *Thinking* is not the *Manner* of the *Extended Subſtance*, becauſe that *Extenſion* with all the reſt of the Attributes belonging to *Extended Subſtance* may be deny'd of Thought, and yet a man may rightly apprehend of *Thinking*.

It may be here farther obſerv'd, that there are ſome of theſe *Modes* or *Manners*, which may be call'd *Intrinſic*; becauſe they are apprehended to be in the Subſtance, as *round* or *ſquare*; others may be ſaid to be *extrinſic*; becauſe they are tak'n from ſomething which is not inherent in the Subſtances; as *beloved*, *ſeen*, *deſired*; but theſe things depend upon the Actions of others. And theſe ſorts of *Modes* or *Manners*, are called in the Schools, *Extinſical Denominations*. But if theſe *Modes* are taken according to the *Manner* whereby things are apprehended, they are called *Second Intentions*. Thus *to be Subjected*, *to be Predicated* are *Second Intentions*, becauſe they are the *Manners* whereby the things themſelves are apprehended, as they are in the Underſtanding, conjoining two *Ideas*, affirming one to be the other.

It

It is farther to be obſerv'd, that there are other *Modes* which we may call *Subſtantials*, becauſe they repreſent to us true *Subſtances* applied to other *Subſtances* like to *Manners*; of which ſort are *Cloath'd*, *Arm'd*, *&c.*

There are others which we may call ſimply *Real*, and theſe are the true *Manners*, which are not *Subſtances*, but *Manners* of *Subſtance*.

Laſtly, there are others which we may call *Negatives*, becauſe they repreſent the Subſtance to us with a Denial of ſome real or ſubſtantial *Manner*.

Now if the Objects repreſented by theſe *Ideas*, whether *Subſtances* or *Manners*, are really ſuch as they are repreſented to us, we call 'em true. If not, they are falſe *Ideas*, in ſuch a manner as they may be. And theſe are they which in the Schools are called *Entia Rationes*, *Entities of Reaſon*, which happen for the moſt part when the Mind conjoins two *Ideas* real in themſelves, but diſtinct; thus the *Idea* of a *Golden Mountain* is an *Entity of Reaſon*, compounded of two *Ideas* of a *Mountain* and *Gold*, which the Mind repreſents as conjoin'd, when really they are not ſo.

Of

CHAP. III.

Of Ariſtotle's *Ten Predicaments.*

TO this Head of the Objects of *Ideas*, the ten Predicaments of *Ariſtotle* may be reduc'd; as being but ſeveral Claſſes, under which that Philoſopher comprehended all the Objects of our Thoughts; compredending all Subſtances under the Firſt, and all accidents under the other Nine.

The firſt *Subſtance*, which is either Spiritual or Corporeal; the ſecond *Quantity*, which is either *diſcrete*, when the Parts are divided as Numbers.

Or *Continued*, when the parts are conjoined, and then either ſucceſſive, as *Time* and *Notion*; or Permanent, which by another name is call'd Space, or Extenſion in Length, Breadth, and Profundity; length alone making lines, Length and Breadth making ſurface, and all together cauſing *Solidity*.

Third *Quality*, of which *Ariſtotle* makes four Kinds.

The firſt comprehends *Habitude*, a diſpoſition of Mind or Body, acquir'd by reiterated Acts, as the Sciences, Vertue, Vice, Excellency

cellency in Painting, Writing, Dancing.

The Second *Natural Ability*; ſuch as are the Faculties of the Soul or Body, the Underſtanding, the Will, the Memory, the Five Senſes, Swiftneſs of Foot.

The Third, *Senſible Qualities*, as Hardneſs, Softneſs, Ponderoſity, hot, cold, colours, ſounds, odors and ſeveral ſorts of Reliſhes.

The Fourth, *Form* and *Figure*, which is the extrinſecal determination of Quantity, as *Round*, *Square*, *Spherical*, *Cubical*.

Fourthly Relation of one thing to another, *as of Father to Son*, *Maſter to Servant*, *King to Subject*, *of Power to the Object*, *of ſight to the Thing Viſible*; to which may be added all things denoting Compariſon; as *like*, *equal*, *bigger*, *leſs*.

Fifth, *Action*, either conſider'd in it ſelf; as to *walk*, *leap*, *to know*, *to love*; or externally, as *to ſtrike*, *to ſaw*, *to break*, *to manifeſt*, *to hear*.

Sixth, *Suffering*; as *to be ſtricken*, *broken*, *to be manifeſted*, *heated*.

Seventh, *where*; as when we anſwer to Queſtions about Place; *He is at* Rome, at Paris, *in his Study*, *or a bed*.

Eighth, When we anſwer to queſtions about Time, as *when did he Live? a hundred Years ago*; *When was this done? Yeſterday*.

Ninth, *Scituation*, as *Sitting*, *Standing*,

Lying, behind, before, upon the Right-hand, on the Left.

The Tenth, the manner of having, as to have any thing about a Man for *Cloathing, Ornament, Armour; or to be Cloath'd, Adorn'd, Arm'd, to wear Breeches*, &c.

Theſe are *Ariſtotle*'s Ten Predicaments form'd for the Birth of ſo many Miſteries, though to ſay truth, of very little uſe, and ſo far from rectifying of Judgment, which is the Scope of Logic, that they frequently do much miſchief; and that for two Cauſes which it will be worth while to diſplay in this place.

The firſt is that theſe Predicaments are things lookt upon as things grounded upon Reaſon and Truth, whereas they are things meerly Arbitrary, and which have no ground but the Imagination of a Man that has no Authority to preſcribe Laws to others, who have as much Right as he, to diſpoſe in the ſame, or any other order the Objects of Thinking, according to the Rules of Philoſophy, which every one embraces. In a word, the following Diſtic contains whatever falls under our Conſideration according to the new Philoſophy.

Mens

Mens, Menſura, quies, motus, Poſitura, Figura, Sunt cum materia Cunctarum Exordia rerum.

For the followers of this Philoſophy believe they have drain'd all Nature out of theſe ſeven Heads.

1. *Mens* or the *Thinking Subſtance.* 2. *Matter*, or the Extended Subſtance. 3. *Meaſure*, or the Bigneſs or Smallneſs of every part of the Matter. 4. *Poſition*, or Scituation one in reſpect of another. 5 Figure. 6. Their Motion. 7. Their *Reſt*, or ſlower Motion.

The other Reaſon why we think this Series of Predicaments to be pernicious is this, becauſe it occaſions Men to ſatisfie themſelves with the outward Rind of Words, inſtead of Profiting by the wholſome Fruit, and to believe they know all things, ſo they are able to ſay by rote certain names of *Arbitrary* Signification, which yet imprint no clear or diſtinct *Ideas*, as we ſhall afterwards demonſtrate.

Here ſomething might be ſaid of the Attributes of the *Lulliſts*, Goodneſs, Patience, Magnitude, and the reſt. But it is ſuch a ridiculous Invention, to think that they are able to give a Reaſon of all things by the application of a few Metaphiſical words, that it is not worth refuting.

And therefore a very Modern Author has affirm'd with great Reaſon, *that the Rules of* Ariſtotles *Logic are ſerviceable, not ſo much to diſcover what we are Ignorant of, but to explain to others, what we know already: but that* Lully *taught us to prattle fluently and without Judgment of that of which we know nothing at all.* And therefore Ignorance is to be preferr'd far before this falſe Knowledg; for as St. *Auſtin* judiciouſly obſerves in his Book of the utility of Belief, ſuch a diſpoſition of the Mind is highly to be blam'd for two Reaſons. One, *for that he who is perſwaded that he underſtands the Truth, renders himſelf uncapable of Learning any more*: and Secondly becauſe ſuch a Preſumption and Raſhneſs is a ſign of an ill-govern'd and ill-qualified Mind. *Opinari* ſaith he, *Duas ob res turpiſſimum, eſt, quod diſcere non poteſt, qui ſibi jam ſe ſcire perſuaſit, & per ſe ipſa temeritas non bene affecti Animi ſignum eſt*; For the word *Opinari*, in the purity of the Latin Tongue, ſignifies a diſpoſition of Mind, that conſents too lightly to uncertain things, and ſo believes that he knows what he does not underſtand, and therefore all the Philoſophers maintain'd, *Sapientem nihil Opinari*; and *Cicero* blaming himſelf for that defect, ſays that he was *Magnus Opinator*,

Chap. IV.

CHAP. IV.

Of the Compoſition and Simplicity of Ideas, *wherein is diſcours'd the manner of knowing by Abſtraction or Preciſion.*

WE have affirm'd by the by, in the ſecond Chapter; that we may apprehend the Mode or Form without conſidering diſtinctly the *Subſtance* of which it is the *Mode*, from whence we take an occaſion to explain, what is *Abſtraction of the Intellect.*

The narrow Limits to which our Souls are confin'd are the reaſon that we cannot perfectly apprehend things, if a little compounded, without conſidering 'em in Parts, and according to the ſeveral ſhapes that they may receive. Which is that, which we generally call knowing by *Abſtraction.*

But in regard that things are variouſly compounded, ſome of Parts really diſtinct, which we call *Integral*, as the *Body of Man*, *Number*, &c. It is eaſie thence to underſtand, that the Mind may conſider one Part and not another, becauſe theſe Parts are really di-

ſtinguiſh'd: But this is not that which we call *Abſtraction.*

Now it will be more advantagious to conſider theſe Parts ſeparately, to a diſtinct knowledg of which we can never elſe attain. For example the *Body of Man* can be no otherwiſe known, then by dividing it into all it's Parts; as well ſimilar as diſſimilar, and by ſetting ſeveral names upon every one. *Arithmetic* alſo ſtands upon this foundation. For we have no need of Art to meaſure or compt little Numbers, for the Mind is able to receive them entire. So that the whole Art conſiſts in numbring ſeperately thoſe Parts of Number, which being whole we cannot reck'n. For as Capacious as the Mind is, it is impoſſible for it to multiply two Numbers conſiſting of eight or nine Figures, without a ſeperate Multiplication of each Figure by it ſelf.

Secondly, we know by Parts, when we apply our ſelves to one manner not conſidering the Subſtance; or to two ſeperately, which are not however inherent in one and the ſame Subject. This is done by the Geometricians who make a Body extended in Length, Breadth, and Profundity, the Object of Geometry. But for the more accurate knowledg of this they firſt apply themſelves to the Conſideration of one only Dimenſion,

menſion. Then they conſider two dimenſions, *Length* and *Breadth*, which they call a *Superficies*; and laſtly all the three dimenſions together, which they call *ſolid Bodies*.

Hence it appears how vain and ridiculous the *Subtleties* of the *Skeptics* are, who endeavour to call in queſtion the certainty of *Geometry*, becauſe it ſuppoſes Lines and Superficies that never were; for it does not ſuppoſe Lines without Latitude, nor Superficies without Profundity; but it ſuppoſes that Longitude may be conſider'd without the conſideration of Latitude; which is a thing beyond all Controverſy, for in meaſuring the diſtance between City and City, we only meaſure the length of the way, not troubling our ſelves about the Breadth.

Now by how many the more *Manners* we divide *things*, ſo much the more capable we become of accurately underſtanding 'em. Thus we ſee in motion, when the determination to what place, is not rightly diſtinguiſh'd as well from the motion, as the parts of the determination, ſo long nothing can clearly be concluded concerning the cauſes of *Reflection* and *Diſtinction*, which is done by the help of this Diſtinction, as may be ſeen in the Second Chapter of *Des Cartes's Optics*.

Thirdly we know by *Abſtraction*, when the thing has ſeveral Attributes, but we only

conſider one, ſetting all the reſt aſide. For Example, I conſider, *That I think* and by Conſequence that *I am he who thinks*. Now in this *Idea* of *my ſelf thinking*, I can only conſider the *Thing-Thinking*, not conſidering that I am the *Thing-Thinking*, tho' in *Me*, My ſelf, and the *Thing-Thinking* are one and the ſame, and ſo the *Idea* which I have conceiv'd of the *Perſon-Thinking* will not only repreſent *me my ſelf* but all other *Perſons that think*. In the ſame manner, if I conſider an Equilateral Triangle, as it is deſcrib'd in ſuch a Paper, with all its other determining Circumſtances; that *Idea* will only repreſent this Triangle to me. But if I call off my thoughts from the conſideration of theſe particular accidents, and apply my ſelf to the conſideration of this Figure, as conſiſting of three Lines; the *Idea* thus form'd will hence more clearly explain the Equality of the Lines, and thence I become more apt and Skilful to make a repreſentation of all other Triangles of the ſame Nature. If I am to go farther, and not to ſtop at the Contemplation of the Equality of Lines, but am to conſider it as a figure conſiſting of three right Lines, this *Idea* will expreſs all the ſorts of Triangles. Laſtly, if omitting the number of the Lines, I only conceive a ſuperficies bounded with Right-Lines, I ſhall form an *Idea* of Figures conſiſting

conſiſting of Right-Lines; and thus by degrees I may aſcend to extenſion it ſelf. For in theſe Abſtractions, the inferiour degree contains the Superiour, together with ſome conjoin'd determination. Thus *I think* contains the *Thing Thinking*: thus an equilateral Triangle contains a Triangle, and thus a Triangle comprehends a Right-lin'd Figure, and the upper degree repreſents many things ſo much the more clearly, by how much the leſs it is determin'd.

Laſtly, It is manifeſt, that by the benefit of *Extraction*, *Common Ideas* are produc'd out of *Singular*, and out of *Common* ones ſtill more *Common*. By which we are admoniſh'd to proceed to what is to be ſaid concerning the *Univerſality* and *Particularities* of *Ideas*.

CHAP. V.

CHAP. V.

Of the Univerſality, Particularity and Singularity of Ideas.

ALtho' whatever exiſts be *Singular*, nevertheleſs by the help of Abſtractions, we may have ſeveral ſorts of *Ideas*, of which ſome will expreſs *Singulars*; and ſuch is the *Idea* which every one has of himſelf; others will expreſs many things together, as when a Man thinks a Triangle, conſidering nothing elſe but that it is a figure containing three Lines, and as many Angles; which *Idea* ſo form'd, may ſerve for the apprehenſion of all other Triangles.

Ideas repreſenting one thing, are call ld *Singular* and *Individual*: and their Objects are called Individuals, but they that repreſent ſeveral things, are called *Univerſal*, *Common* or *General*.

The names that denote the firſt, are Proper Names, as *Socrates*, *Rome*, *Bucephalus*. Theſe that ſignify the latter *Common* and *Appellatives*: as a *Man*, a *City*, a *Horſe*. And as

as well *Univerſal Ideas* as *Common* names may be call'd *Generical Terms*.

Note that there are two ſorts of *Generical Terms*, one of thoſe that are called *Univocals*, to which the *Univerſal Ideas* are ſo tied, that the ſame name may agree with ſeveral things according to the ſame ſound, and the ſame Notion that is annexed to the Sound; of which ſort are a *Man*, a *City*, a *Horſe*.

The other is of thoſe that are called *Equivocalls*, the Sound of which is the ſame, annexed to different *Ideas*, ſo that the ſame ſound or word may agree to ſeveral things, but not according to the ſame but various *Ideas* which cuſtom has ſubjected to the word. Thus *Canon* ſignifies a great Gun, and Eccleſiaſtical decree, and a Rule of Art; for theſe ſignifications belong all to different *Ideas*.

Theſe *Univerſal Equivocalls* are of two ſorts. For various *Ideas* ſubjected to one Sound, have either no Relation one with another, as in the word *Canon*; or elſe they have ſome Relation; as when the name primarily ſignifies one *Idea*: others no otherwiſe then as they relate to the firſt *Idea*, as the *Cauſe*, *Effect* or *Sign*, and theſe *Equivocalls* are called *Analogous*; thus *Animals*, the *Air*, and *Diet* are ſaid to be Healthy.

Now the *Idea* firſt joyn'd to the word, denotes Health, which is proper to Animals; but

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Now the *Idea* firſt joyn'd to the word, denotes Health, which is proper to Animals; but

but others are added, approaching near to the primary *Idea*, as being the Cauſe of Health; and therefore we call the Air Healthy, and Diet healthy, becauſe they both contribute to the preſervation of Health.

Nevertheleſs when we hear ſpeak only of *Univerſal Terms*, we underſtand *Univocalls* only, with the *Univerſal Ideas* annexed.

But among all theſe *Univerſal Ideas* there are two which it highly concerns us rightly to diſtinguiſh, that is to ſay, *Comprehenſion* and *Extenſion*.

I call the *Comprehenſion* of an *Idea* all thoſe Attributes that are contain'd within it, ſo that none can be taken away, but the *Idea* muſt be deſtroy'd. Thus the *Comprehenſion* of the *Idea* of a Triangle, includes *Extenſion*, *Figure*, Three Lines, three Angles, and the equallity of thoſe Angles with two right Angles.

I call *Extenſion* the *Subjects* with which the *Idea* agrees, which are alſo call'd the *Inferiors* of the *Univerſal Term*, which being related to thoſe, carries the name of Superior. Thus the *Generical Idea* of a Triangle extends it ſelf to all the ſeveral *Species* of Triangles.

But tho the *Generical Idea* confuſedly extends it ſelf to all the inferior Subjects, nevertheleſs between the Attributes which it comprehends,

prehends, and the *Subjects* to which it is extended, the difference ariſes from hence, that we cannot deſpoil the *Idea* of any of its attributes without deſtroying it, as hath been ſaid; whereas we may reſtrain the *Extenſion* of the ſame, by applying it to ſome of the *Subjects*, yet never injure the *Idea*.

Now the *Reſtriction* of the *Generical Idea* may happen two ways.

Firſt by the addition of an *Idea* diſtinct and determin'd. Thus if I add to the *Generical Idea* of a Triangle, that it has a right Angle, I reſtrain the *Generical Idea* of a Triangles to a certain ſpecies of a Triangle, which is therefore called a *Rectangle Triangle*.

Secondly, By the addition of an *Idea* confus'd, and undetermin'd; as if a Man ſhould ſay, *ſome Triangle*. In which caſe the *Term* is made particular, becauſe that now it extends it ſelf only to a part of the *Subjects*, which before comprehended all, and yet that part to which it is reſtrain'd is not determin'd.

CHAP. VI.

CHAP. VI.

Of the five Univerſal Ideas; Genus, Species, Difference, Proper, and Accident.

WHAT has been ſaid in the former Chapters opens us a way for the explanation in few words of thoſe *Univerſals* which are Vugarly made uſe of in the Schools.

For when the *Generical* Idea repreſents to us their Objects as *Things*, and that in *Subſtantives* and abſolute Terms, it is call'd either *Genus* or *Species*.

Of Genus.

Genus is call'd an Idea as being ſo common that it extends it ſelf alſo to other *Univerſal* Ideas. Thus a ſquare Figure of four ſides is a *Genus*, in reſpect of a *Parallellogram* or a *Trapezium*. And in like manner Subſtance is the ſame in reſpect of *Subſtance extended*, which is a Body, and the *Thinking Subſtance*, which is a Spirit.

Of

Of Species.

But the common *Idea* which is another more Common and General, is call'd *Species*. Thus a *Parallellogram*, and *Trapezium* are *Species*'s of a Square Figure: and thus Body and Spirit are *Species* of Subſtance.

But one and the ſame *Idea* may be call'd a *Genus*, if it be referr'd to other *Ideas* to which it extends it ſelf: but the *Species*, if it relates to an *Idea* more General, to which it is ſubſervient. Thus *Body* is a *Genus* in reſpect of a *Body* animate or inanimate; but a *Species* in reſpect of *Subſtance*. Thus a Square is a *Genus* in reſpect of a *Parallellogram*, but a *Species* in reſpect of a Figure indeterminately taken.

But there is another Notion of *Species*, which does not fall but upon thoſe *Ideas*, which cannot be call'd *Genus*'s; as when any *Idea* has only under it *individuals* and *ſingulars*. Thus a Circle has only under it ſingular Circles, which yet are all of the ſame *Species*, and theſe *Species*'s are call'd the *Lowermoſt*.

There is alſo a *Genus* which cannot be a *Species*, which is call'd the Supreme of all *Genus*'s; whether it be *Ens* or *Subſtance*. Nor is it much material to know it as relating rather to *Metaphyſics* then *Logic*.

I have call'd those *Ideas* which represent to us their Objects as *Things* either *Genus*'s or *Species*'s. However it is not absolutely necessary that those Objects should be either *Things* or *Substances*; it suffices that they be apprehended to be like 'em. For though they be *Manners*, they may be represented without any Relation to their *Substances*, and only be referr'd to other *Ideas* of *Manners* either more or less General. Thus *Figure*, which is the *Manner* of a Figur'd *Body* is a *Genus* in respect of Figures consisting of streight or crooked Lines.

On the contrary, *Ideas* that represent to us their Objects as *Things modify'd*, and that in *adjective* or *connotative* Terms, if they be compar'd with *Substances* which these *Connotative* Terms signifie but confusedly, though directly, whether these *Connotative* Terms denote *Essential Attributes* (which indeed are nothing else but the *Things* themselves) or *Manners*, yet are they not call'd either *Genus*'s or *Species*'s, but either *Differences*, or *Propers*, or *Accidents*.

They are call'd *Differences* when the Object of the *Ideas* is an *Essential Attribute*, by which the *Species* is distinguish'd from another *Species* as *Extended*, *Thinking*, *Rational*.

They are call'd *Propers*, when the Object really belongs to the Essence of the *Thing*, though,

though not the firſt thing that is conſider'd in it, but depending upon the firſt; as *Diviſible*, *Immortal*, Docible.

Common Accidents are ſo call'd, when their Objects are *true Manners*, which cannot be ſeperated by the Underſtanding, from the Thing whoſe Accidents they are, without deſtroying the Idea of the Thing in our Minds; as *Round*, *Hard*, *Juſt*, *Prudent*.

Of Difference.

Now whereas *Genus* has under it two Species; of neceſſity the *Ideas* of Both include ſomething of themſelves, which is not comprehended in the *Idea* of the *Genus*. For if they had nothing different from the *Genus*, they would be *Genus*'s themſelves; and as the *Genus* is predicated of both the *Species*'s, ſo both the *Species*'s are predicated one of another. Hence the Eſſential Attribute to the *Species* not being found in the *Genus*, is call'd the *Difference* of it, and is the *Univerſal Idea* which we have of it: becauſe it can ſolely and only repreſent to Us this *Difference*, wherever it be found; that is, in all Inferiors of that *Species*.

For Example, Body and Spirit, are two *Species*'s of *Subſtance*: therefore there muſt be ſomething more in the *Ideas* of Body and

Spirit, then in the *Idea* of *Subſtance*. Now that which we firſt ſee more in *Body* is *Extenſion*; what we ſee firſt in *Spirit* is *Thought*. Hence the *Difference* of *Body* will be *extenſion*; of *Spirit*, *Cogitation*. That is Body will be a *Subſtance extended*, Spirit, a *Thinking Body*.

Hence it follows, that Difference is doubly referr'd, either to the *Genus*, which it divides, or to the *Species* which it Conſtitutes; and farther that it is the primary part of that which in the *Comprehenſion* of the *Idea* is included in the *Species*. Hence every *Species* may be expreſs'd by one word only, as *Mind*, *Body*; or by two conjoyntly, that is of *Genus* and *Species*, which is alſo call'd a Definition, as *Subſtance extended*, a *Thinking Subſtance*.

Secondly, *Difference*, becauſe it conſtitutes the *Species*, and *Differences* it from other *Species's*, ought to have the ſame extent with *Species*; and for that reaſon *Difference* and *Species* ought to be predicated one of another; as thus, *Whatever thinks is a Spirit*, *every Spirit thinks*.

But often times it happens, that in ſeveral things there is no Attribute that offers it ſelf which agrees ſo fully with the whole *Species* as to agree only with that *Species* and no other. In this caſe the way is to join together ſeveral Attributes, and the *Aſſemblage* not being to be found in any other *Species*, conſti-

tutes

tutes the difference. Thus the *Platonics* aſſerting that the *Dæmons* were no leſs rational Animals, then Men, would not admit *Rational* to be the Reciprocal difference of Man, but added another to it, that is to ſay, *Mortal*; which is not the Reciprocal difference of Man, as being common to Beaſts: yet being both join'd together, they only relate to Man. And thus we frame to our ſelves *Ideas* of the moſt part of Beaſts.

Laſtly, It is to be obſerv'd, that it is not always requir'd that both the *Differences* dividing the *Genus*, ſhould be Poſitive: it ſuffices that only one be ſuch. Thus two Men are ſufficiently diſtinguiſh'd, if he be ſaid to follow an Employment which the other does not; tho' he that wants the Employment has no leſs poſitively then what the other has.

Thus Man is generally diſtinguiſh'd from Brutes; for Man is a *Creature endu'd with a Soul*; but Brutes are *meer Animals*. Yet the *Generical Idea* of Brutes contains nothing in it *poſitively*, that is not found in Men; only we add to that *Idea*, a denial of that to be in them which is in Men; that is the *Soul*. So that the difference between the *Idea* of an *Animal*, and the *Idea* of a Brute conſiſts in this, that the *Idea* of an *Animal* neither excludes nor includes Cogitation within its Comprehenſion, whereas nevertheleſs it is

contain'd in its Extenſion. On the other ſide, the *Idea* of a *Brute* excludes Cogitation out of its *Comprehenſion*, and therefore cannot ſort with *Man*.

Of Propers.

The *difference* being found out which conſtitutes the *Species*, that is, the primary eſſential Attribute diſtinguiſhing it from any other *Species*, if enquiring farther into the nature of it, we find another attribute depending upon the Principal by neceſſary Connexion, and conſequently altogether agreeing with this only *Species*, ſuch an *Attribute* we call *Propriety*: and becauſe it agrees with all the Inferiors of the ſame *Species* whereever it be, we adopt it into the number of Univerſals, and make a Fourth.

For Example, To have a *Right-Angle* is the eſſential difference of a *Rectangle Triangle*. Now becauſe it neceſſarily follows that *Angles* being *Right*, the Square of the *Hypotenuſe* is equal to the ſquares of the other ſides, the Equality of thoſe Squares is taken for the Propriety of a *Rectangle Triangle*, which agrees with all and only *Rectangle Triangles*.

Nevertheleſs ſome will have this name of *Proper* to be of a larger Extent, and hence ariſe thoſe four *Species* of it.

The

The first is that which we have already explain'd, and which agrees with *all solely, and always*: thus it is the propriety of all Circles, and only Circles, and always to have all Lines drawn from the Center to the Circumference equal.

The Second agrees with *All*, but not *only All*. Thus it agrees with an extended Body to be divisible, because all extended Bodies may be divided, altho *Duration*, *Number*, and *Force* may also be divided.

The third may agree with *one only*; but not with all. Thus it is only proper to a Man to be a Physitian or a Philosopher; tho' all Men are neither Philosophers nor Physitians.

The Fourth may agree with *all* and *only*, but not *always*.

An Example of this we have in Grey-hairs of Old-men, which is proper *solely* and to *all Men*, but not *always*; that is, not till Men arrive to Old-age.

Of Accidents.

We have already declar'd in the Second Chapter, that a form or *Manner* is that which cannot naturally subsist but by the substance, and that it is not join'd to the Substance with any necessary Connexion; So that the thing

may be exactly underſtood, though the Form or Manner be not conceiv'd. Thus we exactly underſtand a Man, not conſidering whether he be *Prudent* or no; but *Prudence* cannot be conceiv'd unleſs we apprehend the Man, or ſome Intelligence being capable of *Prudence*.

But when we couple the confus'd and indeterminate *Idea* of Subſtance with the *Diſtinct Idea* of any form or manner, this *Idea* may repreſent all things, wherein this manner is included.

Thus the *Idea* of a Prudent Man will repreſent all prudent Men; the *Idea* of *Round* will repreſent all *Round* Bodies. And theſe *Ideas* being thus expreſs'd by *Connotative* Terms, are thoſe things which make the *firſt Univerſal*, call'd *an Accident*; becauſe it does not eſſentially belong to the *Thing* to which it is attributed; for if it did, it would be either *Difference* or *Propriety*.

But here it is alſo to be obſerv'd, as we have hinted before, that when two Subſtances are conceiv'd together, another may be conceiv'd as the form or manner of the other. Thus a *Man Cloath'd* may be conſider'd as ſomething compounded of a *Man* and *Cloaths*. But *to be Cloath'd*, in reſpect of that Man, is the manner of his appearing only, under which that Man is conceiv'd, though the Garments

Garments are Subſtances: and thus, to be clad: will belong to the *firſt Univerſal.*

And ſo much for the Univerſalls ſo pompouſly cri'd up in the Schools; for 'tis little material to know that there are *Genus*, *Species*, *Difference*, *Propriety*, and *Accident*; but to know the true *Genus's*, the true *Species's* of *Genus's*, their Proprieties and accidents, that's the main thing requir'd; for the attaining of which knowledg we make no queſtion to give ſome light in the following Chapters, after we have ſpok'n ſomething before-hand of the *Complex'd Terms.*

CHAP. VII.

Of the Complex'd Terms, their Univerſality, and Particularity.

Sometimes to ſome certain Term we join other Terms, from which ariſes in our Minds a *total Idea*, of which we may affirm or deny thoſe things, which cannot either be deni'd or affirm'd of the ſingle terms ſeparately taken; from whence proceed the *Complex'd Terms*; as a *Prudent Man*, a *Tranſparent Body*, *Alexander the Son of Phillip.*

Theſe additions are ſometimes made by Pronouns Relative, as *the Body which is Tranſparent*, *Alexander who is the Son of Philip*; *the Pope who is Antichriſt.*

And indeed it may be affirm'd that altho theſe Pronouns are not always expreſſ'd, yet they are always to be underſtood, becauſe that in altering the Propoſition, they may be Expreſt. *For a Tranſparent Body, and a Body that is Tranſparent*, are equivalent.

But that which is chiefly to be obſerv'd in *Complex'd Terms* is, that there are two kinds of *Additions*, of which the one may be called *Explicative*, and the others *Determinative.*

The *Explicative* in poſitive words, explains that which before lay hid either in the *Comprehenſion* of the *Idea* of the firſt Term, or at leaſt which agrees with it as an *Accident*, ſo that it agrees with it generally and according to its entire Extenſion. As when I ſay, *A Man who is a Creature endu'd with Reaſon*; or *a Man who naturally deſires Happineſs*; or a *Man who is Mortal.* For what is here added is only *Explicative*, not changing any thing in the whole *Idea*, which is annex'd to the word *Man*: nor reſtraining it to ſignifie only certain Men; but only it denotes thoſe things more clearly which are common to all Mankind.

Of this nature are thoſe *Additions* which are appli'd to Names, diſtinctly denoting

In-

Individuals, as when we ſay, *London is the largeſt City in* Europe; Julius Cæſar *was the greateſt Captain in the World*; Ariſtotle *the Prince of Philoſophers*; Lewis *the Fourteenth King of* France; for here the *Single Terms* ſo pronounc'd, looſe nothing of their Extenſion, as being firſt determin'd as much as they could be.

Determinative is that, which being added, reſtrains the Signification of the *General Term*, ſo that it is not now accepted in its full extenſion, but comprehends only a part of it; as *Tranſparent Bodies*, *Wiſe men*, a *Rational Creature*. Theſe additions are not ſimply *Explicative*, but *Determinative*, becauſe they maim and curtail the Extenſion of the firſt Term; for the name of *Body* here ſignifies only a part of the Body *of Man*, as a part of Men; *of a Creature*, as part of the Creatures.

But it is the Nature of theſe additions ſometimes to create a *Singular* out of a *Common Term*, when they contain Conditions *Individuant*: as when I ſay *the King now Reigning*, the Common name of King is determin'd to the ſingle and only Perſon of *James* II.

There are alſo two other kinds of *Complex'd Terms*; of which the firſt is *Complex'd* in words, the other in Sence only.

Of the firſt kind are thoſe that have the Addition expreſs'd, as in the Examples hitherto mention'd.

Of

Of the other kind are They, in which one of the Terms is only pronounc'd, the other underſtood: as when we ſay, *the King*. This Term is *Complex'd* in Senſe; becauſe when we pronounce the word, the *Idea* of the Common name does not preſent it ſelf to our minds alone, but, as adjoyn'd to it, the *Idea* of *Lewis* 14. who now Raigns in *France*. The *infinite* number of *Terms* is meant of thoſe which being thus *complex'd*, occur in daily Talk, as in every Family, *Maſter*, implying ſuch a One. Some Terms are alſo *Complex'd* aswell in Words as Senſe; but after various manners. Thus the *Prince of Philoſophers* is complex'd in words, becauſe the name of *Prince* is determin'd by the word *Philoſopher*; but in reſpect of *Ariſtotle*, to whom the School-men are ſo addicted to give that Title, it is complex'd in Senſe, when the *Idea* of *Ariſtotle* is only obvious to the mind, nor being expreſs'd by any Sound that denotes the Perſon.

All *Adjectives* or *Connotatives* are either Parts of *Connex'd* Terms, though they are clapt together with their Subſtances, or *complex'd* in Senſe, when the Subſtantives are underſtood. Becauſe, as we have ſaid in the Second Chapter, theſe Connotative Names denote the Subject directly indeed, but more confuſedly; the *Mode* or *Form* indirectly; but more diſtinctly.

And

And therefore the Idea of the Subject is very General and very confus'd, repreſenting ſometimes *Entity*, ſometimes a *Body*, which for the moſt part is determin'd by a diſtinct Form of the *Idea*. Thus *White* ſignifies a Thing that has *Whiteneſs*. And hence the Confus'd *Idea* of the Thing, is determin'd to ſignifie thoſe things only that are *White*.

However in this Matter, it is chiefly to be obſerv'd, that there are ſome *Complex'd* Terms, which although they be only determin'd to one only *Individual*, nevertheleſs retain an *Equivocal Univerſality*, which may be call'd an *Univerſality* of *Error*. For when men agree that one only Thing is ſignify'd by ſuch a Term, but diſpute what that *only Thing* really is, it happens that this Term is apply'd by ſome to ſignifie this Thing, by others, another Thing. Hence it is requiſite that ſuch a Term be farther determin'd either by the variety of Circumſtances or the Series of Diſcourſe that the ſignification of the Term may be made preciſely apparent.

Thus *true Religion* ſignifies one ſole Religion, which is really the *Church of England*; but becauſe all People and every Hereſie think their own Religion to be trueſt, theſe *Terms* are highly *Equivocate*, by *Equivocation* of *Error*. For if an Hiſto-

Hiſtorian ſhould write that his Prince was moſt addicted to the *true Religion*, it cannot be ſaid what he means, unleſs it be known what Religion the Hiſtorian profeſs'd. For if he were a *Church of England Man*, it is underſtood of a Church of *England* Prince, or of a *Mahumetan*, if the *Hiſtorian* were an *Arabian Mahumetan*; and ſo of a *Roman Catholic* Prince; if the *Author* were a *Roman Catholick*.

Complex'd Terms, wherein there is *Equivocation* of *Error* chiefly comprehends thoſe Qualities of which the Senſe is no Judge, but the Mind. For men are prone to differ in their Opinion, concerning ſuch Things.

For Example, ſhould we affirm, that no Soldiers were liſted by *Marius*, but ſuch as were ſix foot high, this *Complex'd* Term, *Soldier, ſix foot high*, is not ſubject to *Equivocation* of *Error*, when it is eaſie for Soldiers to be meaſur'd, that we may know whether they be ſix foot high or no. But had it been decreed that none ſhould be liſted but ſuch as were *ſtout*, this Term had been much more liable to *Equivocation*, when as it might be attributed to ſuch Soldiers, that lookt like ſtout Men, but are indeed but meer Cowards.

This *Equivocation* of *Error* is often found in *Complex'd Terms*, *The Chiefeſt of the Pariſian Geometricians*; *the moſt Learned*, *the wickedeſt*,

eſt, *the richeſt of Men.* For though theſe Terms are divided by *Individuant* Conditions, ſeeing that one Perſon might be the chiefeſt of the *Pariſian* Geometricians; nevertheleſs this Term might be aſcrib'd to ſeveral, though proper only to one; in regard it is an eaſie thing for men to vary in their Judgments concerning this matter; ſo that every one ſhall give this Title to him, whom he thinks to be the beſt and moſt excellent Geometrician.

Theſe Forms of Speech alſo; *The Sence of the Author*, *what the Author declares upon this Subject*, are of the Number of theſe *Equivocates*; eſpecially if the Author be ſo obſcure, that there be any Diſpute about his Senſe. And thus we find continual Altercations concerning *Ariſtotle's* Opinion of Philoſophers, while every one endeavours to draw him to their Party. For although *Ariſtotle* had but one Sence concerning one Thing; yet becauſe he is variouſly underſtood by ſeveral, theſe words, the *Sence of Ariſtotle*, are the Equivocations of Error. For every one pronounces that to be the Judgment of *Ariſtotle*, which he is perſwaded that *Ariſtotle* meant; and ſo if ſeveral believe, That *Ariſtotle* had a different Opinion of the ſame thing; theſe Terms, *the Sence of Ariſtotle in ſuch a matter*, though ſingular in themſelves, can never be apply'd to Many, that is to ſay, to all thoſe things, that *Ariſtotle* ſhall

ſhall be ſaid to have written upon ſuch a Subject; for ſo they ſhall ſignifie with every one, what every one is perſwaded the Philoſopher thought.

But that we may the better underſtand, where lies this Equivocation of *Error*, it is to be obſerv'd, that the Terms of it are *Connotative*; either expreſly, or in ſence. Now as I have ſaid, in *Connotative* Terms may be conſider'd as well the Subject, which is directly or confus'dly expreſs'd, as the *Form* or *Mode* which is directly and indiſtinctly ſignifi'd.

Thus *White* confuſedly denotes a body, diſtinctly *Whiteneſs*; thus, *the Sence of Ariſtotle*, confuſedly ſignifies ſome Sentence, Thought, or Doctrine of his; diſtinctly, the Relation of that Doctrine to *Ariſtotle*, to whom it is attributed.

However the *Equivocation* which is found in theſe Terms does not properly ariſe from the *Form* or *Mode*, which being diſtinct, can never vary; nor from the Subject confus'dly conſider'd, as not being freed from that confuſion. For Example theſe words, *Prince of Philoſophers*, cannot be *Equivocates*, in regard the *Idea* of *Prince of Philoſophers* can be diſtinctly apply'd to no *Individual*. But Equivocation conſiſts only in This, that the Mind inſtead of the confus'd Subject ſubſtitutes

tutes another which is diſtinct and determinate, to which *Form* or *Manner* are apply'd. But in regard men diſpute about this matter; they may aſcribe the Title of Prince or Cheif to ſeveral Perſons, and ſignalize 'em afterwards with what additional word they think moſt convenient. Thus formerly *Plato* was call'd the *Prince of Philoſophers*; which Title is now conferr'd upon *Ariſtotle*. Thus the words, *True Religion*, not having any diſtinct, but a confus'd *Idea* of any Religion, are no *Equivocates*, becauſe they denote nothing but that Religion which is abſolutely *True*. But when the Mind has annex'd the *Idea* of *True Religion* to the diſtinct *Idea* of ſome particular Worſhip diſtinctly known, they become egregious equivocates, and ſignifie that Worſhip with every one, which they account the *True Religion*.

The ſame is the Condition of theſe words, *That which ſuch a Philoſopher held of ſuch a Matter*. For while they abide in their general *Idea*, the general *Idea* ſimply and generally will ſignifie the Doctrine deliver'd by ſuch a Philoſopher concerning ſuch a Matter; as the Doctrine of *Ariſtotle* concerning the Nature of the Soul. Whereas the ſame words, *that which*, &c. that is to ſay, this Doctrine, while it is under a confus'd *Idea* apply'd to no diſtinct *Idea*, is not capable of *Equivocation*.

But

But when the Mind inſtead of that Doctrine confus'dly conceiv'd, ſubſtitutes a diſtinct Doctrine, & a diſtinct Subject; then according to the variety of diſtinct *Ideas*, that ſame *That which*, &c. may be liable to *Equivocation*. Thus the Doctrine of *Ariſtotle* touching the Nature of the Soul is an Equivocate with *Pomponatius*, who aſſerts that *Ariſtotle* believ'd the Soul to be Mortal; and with ſeveral others of his Interpreters, who on the other ſide affirm that *Ariſtotle* taught the Immortality of the Soul, as well as *Plato* and *Socrates*. Hence it is, that words of this nature moſt frequently ſignify the thing with which the form indirectly expreſs'd cannot agree. Suppoſe for example's ſake, that *Philip* was not the Father of *Alexander*, as *Alexander* himſelf endeavoured to make out; theſe words, the *Son* of *Philip*, denoting Generality, any perſon begot by *Philip*, erroneouſly ſpoken of *Alexander*, denote the perſon that is not really the Son of *Philip*. In like manner theſe words, the *Sence of Scripture* alledg'd by a Quaker, to prove a Sect quite contrary to Scripture ſhall denote that very Sect in his Mouth, which he thinks to be according to the Sence of Scripture, and which he has therefore dignify'd with that name, of the *Sence of Scripture*; nor are the Papiſts more in the right then they, who pretending to adhere to the *Word of God*; for

for among them the *word of God*, ſignifies that *Oglio* of Superſtitions which they would obtrude upon the Proteſtants inſtead of Gods Word.

CHAP. VIII.

Of the Clearneſs and Diſtinction of Ideas, *as alſo of their Obſcurity and Confuſion.*

IN *Ideas* clearneſs may be diſcern'd from *Diſtinction*, and obſcurity from confuſion; for we may call that a clear *Idea*, when it imprints in us a lively, as I may call it, Sence of it ſelf, whereas otherwiſe it may not be ſo diſtinct. The Idea of Pain becauſe it ſtrikes us ſo ſenſibly, may be call'd a *Clear Idea*; but yet it is confus'd, becauſe it repreſents *Pain* to us, as being in the Hand, when indeed it lies in the Sence.

Nevertheleſs we may call every *Idea* clear, ſo far as it is diſtinct; for all obſcurity ariſes out of Confuſion. Thus the ſence of the Pain that hurts us is clear and alſo diſtinct; but what is confus'd in the Feeling, that is to ſay, that the *Pain* is in the hand, cannot be ſaid to be clear.

Now becauſe *Clearneſs* and Diſtinction are one and the ſame in *Ideas*, it will be very requiſite to examine why ſome *Ideas* are clear, others confus'd.

But this will be more apparent by the help of examples, then any other way, and therefore let us weave together a Catalogue of the first *Ideas*, as well clear and distinct, as obscure and confus'd.

The most clear *Idea* is that which every Man has of himself, as of the *Thing that thinks*; as also the *Ideas* of those other Appendixes to our thoughts, as to *Judg*, *Discourse*, *Deliberate*, *Perceive*, *Imagine*.

Ideas of extended *Substances* also are most chiefly clear to us, as also the *Ideas* of their Properties; as *Figures*, *Motion*, *Rest*; for tho' we may feign that there is no Body, no Figure, (tho' we cannot feign any such thing of the thinking Substance, while we think) yet we cannot say we clearly perceive what is *Extension* and *Figure*.

We also clearly apprehend *Duration*, *Order*, and *Number*, so that we consider the *Duration* of any thing to be form, under which we consider the thing, so long as the form continues in it. Thus order and number no way differ in effect from things Order'd and Number'd.

All these *Ideas* are so clear, that we frequently render 'em more obscure, while we endeavour to illustrate 'em with new Observations, and frame to our selves other *Ideas* then those which we have from Nature.

We

We may also say, that the *Idea* of *God* is clear in one respect, tho' in another most obscure and imperfect.

It is clear, because it suffices to discover the great number of Attributes in God, which we certainly know are no where else to be found but in God; but it is obscure in respect of that *Idea* which the Blessed have of him in Heaven. And it is also Imperfect, in regard our Minds being limited and finite, cannot but most Imperfectly conceive an infinite *Being*; for Perfection and Clearness in *Ideas* are two different things. For they are *Perfect*, when they represent to us whatever is in the Object; *Clear* when they represent to us as much as suffices to apprehend the object clearly and distinctly.

On the other side they are confus'd and obscure *Ideas* which we have of *Sensible Qualities*; as of *Colours*, *Sounds*, *Odors*, *Tasts*, *Cold*, *Heat*, *Ponderosity*, &c. As also those of our desires, as of Hunger, Thirst, Pain, *&c.* Now mark the reason of the Obscurity of these *Ideas*.

In regard we were first Children before we were Men, and that exterior things operating within us, stirr'd up various Sensations in our Mind by the help of those Impressions which they made in our Bodies; the Mind conscious that those Sensations are affected against her

will, and that by ſome Body's (as for example the Senſation of heat by the Eire) would not only judg that there were ſome things without her, which were the cauſes of theſe Senſations, (wherein ſhe was not deceiv'd) but going farther, imagin'd ſomething in the Objects, altogether like Senſation, or at leaſt like the *Ideas* thence ariſing. Upon theſe Conſiderations therefore, ſhe form'd *Ideas* to her ſelf, and transfer'd the Senſations of *Heat*, *Cold*, *&c.* into thoſe things that are without her. And by that means thoſe confuſed and obſcure *Ideas* of ſenſible qualities aroſe from hence, that the Mind intermix'd her own falſe Judgments with thoſe that ſhe deriv'd from Nature.

Now in regard theſe *Ideas* are not natural but *Arbitrary*, Men have made a moſt fantaſtical uſe of 'em, and turn'd 'em into meer *Chimeras*; for tho' that *Heat* and *Burning* are two ſorts of *Senſation*; the one weaker, the other fiercer, we have allow'd heat to the Fire, affirming Fire to be endu'd with Heat, yet we have depriv'd Fire of the burning faculty, or of the pain which we feel in approaching too near it, denying Fire to be affected with Pain.

But if Men had rightly apprehended that *Pain* is not to be attributed to the Fire that burns the Hand; yet had they been in another error, while they thought pain to be in the

the hand which the Fire burns, when as pain is only in the Senſe.

This was not only the Opinion of ſome of the antient Philoſopers, as the *Cyrenarchs*, but even of St. *Auſtin* himſelf; *For* ſays he *in his* 14 *Book, de civitat. dei, Pains ſaid to be Pains of the Fleſh, are pains of the Soul in the Fleſh and out of the Fleſh; for pain of the Fleſh is only an Injury to the Soul, and a certain diſſent from its ſuffering: as the Pain of the Soul, which is Sadneſs, is a diſſent from thoſe things that befal us againſt our Wills.*

Thus in his ſeventh Book upon *Geneſis. C.* 19. *When the Soul feels the Afflictions of the Body, ſhe is offended in her act of Government of the Body, her Rule being diſturb'd, and this offence is call'd Pain.*

Now that that *Pain* which is call'd the *Pain* of the Body, belongs to the Soul and not to the Body, is manifeſt from this, that thoſe things that affect us with Pain, ſeldom trouble us when our minds are intent upon other things, as we find by the *Affrican* Prieſt, (of whom *St. Auſtin L.* 14. *de Civitat. dei C.* 24. *Who when pleas'd, upon the Counterfeiting of Groans and Lamentations*, would ſo abſtract himſelf from *his Senſes, and lye as it were for Dead, that they could not make him ſenſible of Pinching and Pricking, nor of the heat of Fire, till it began to ſcorch his Skin.*

Moreover it is to be obſerv'd, that neither the ill diſpoſition of the hand, nor any motion ariſing from burning, cauſes the Soul to be ſenſible of the Pain, unleſs this Motion be Communicated to the Brain, by certain ſmall Strings included in the Nerves, and extended from the Brain to the Hands, and other parts of the Body, which cannot be mov'd unleſs that part of the Body be alſo mov'd from whence they derive themſelves. So that if there be any accident that hinders theſe little Strings from communicating their motion to the Brain (as in the *Palſy*) a Man may endure Wounds and Pain without any Sence of Pain. Inſomuch that what appears yet more ſtrange, a Man may have a pain in his hands that wants hands, as often it happens to thoſe whoſe hands are cut off; for that if the threads of the Nerves extended from the Hand to the Brain be mov'd near the Elbow, where they terminate, they may move that part of the Brain to which they are faſtened, in the ſame manner as it might be mov'd, if the ſame threads deſcended to the hand, as the one end of a ſmall Rope may be moved in the ſame manner, if drawn about the middle, as if pull'd at the other extremity; and thus the Soul ſhould feel the ſame Pain as it would feel if the Perſon had hands. For the Soul directs its attentiveneſs thither from whence

whence that motion of the Brain us'd to proceed, which before affected it with that ſort of Pain. Thus the Reflections that we behold in a Glaſs appear in the ſame place where they would be, ſhould they be lookt upon with direct beams, as being the moſt uſual manner of beholding Objects.

And theſe things ſhall ſuffice to let us underſtand that it may well be, that a Soul ſeparated from the Body may be liable to the Torments of Hell-Fire, and to feel the ſame Pain, as any one would feel through the tortures of Earthly Fire; in regard that when it was join'd to the Body, it was not the Body but the Soul that felt the pain of the Fire, and that pain was nothing but a certain ſadneſs of the Mind wherewith it was afflicted for the ſufferings of the Body, to which it was join'd by God. Why then may we not conceive that divine Juſtice may ſo accommodate ſome part of the material Body to the ſeparate Soul, that the motion of that matter may excite troubleſome and afflicting thoughts in the Soul ſo ſeparated.

But let us return to confus'd *Ideas*. The *Idea* of Ponderoſity is no leſs confus'd then any of the reſt already recited; for having obſerv'd from our Infancy, that Stones and other heavy things fall down as ſoon as let go out of our hands, we form'd an *Idea* of

the thing falling which is genuine and true. We alſo form'd an *Idea* of the reaſon why the thing does fall, which is true likewiſe; but when we only ſaw the Stone, and nothing elſe that forc'd it downward, out of the raſhneſs of our Judgment we concluded that there was no ſuch thing as what we did not ſee, and therefore that the Stone fell by vertue of its own proper and intrinſic Force, and at length we affix'd to this confuſed *Idea*, coin'd only in our own Judgments the name of Ponderoſity.

It came to paſs alſo that we made different Judgments of the ſame things of which the ſame Judgment was to be aſſerted, for as we ſaw Stones mov'd toward the Earth, we found Straw move toward Jet, and Steel toward the Loadſtone. Therefore the ſame Reaſon that bequeathes that quality to Stones to be mov'd toward the Earth, ought to allow the ſame qualities to Straw and Iron for moving towards Jet and the Loadſtone. However this would not ſatisfy; but on the contrary we have aſſign'd to Jet, Amber, and the Loadſtone certain qualities which we call *Attractive*, when with the ſame eaſe we might have endu'd the Earth with the ſame quality of attracting heavy things. However theſe attractive qualities, (as alſo Ponderoſity it ſelf) ſprang from Illegitimate *Ratiocination*,

tion, by which it was concluded, that Iron was neceſſarily attracted by the Loadſtone, becauſe there was nothing ſeen that puſh'd the Iron toward the Magnet; whereas it can never be conceiv'd, that one Body ſhould attract another, unleſs the Body attracting be mov'd, and the Body attracted be faſten'd to it.

To theſe Judgments of our infancy we owe for thoſe *Ideas* that repreſent to us Ponderous and hard things, more ſolid then Light and thin, and having more Body or Matter. Thus we believe that a Veſſel full of Gold contains more matter then if it were fill'd with Air, for thoſe *Ideas* deriv'd themſelves from no other Foundation, then that when we were Children we were wont to make extrinſical Judgments of all things, according to their Actions in reference to us. Hence becauſe ponderous and hard Bodies acted more violently then Light and Thin, we concluded that they contain'd more Subſtance then the other. When true Reaſon tells us, that the ſame part of matter poſſeſſes the ſame ſpace, and the ſame ſpace is always fill'd with the ſame quantity of Matter.

So that a Cubic Veſſel of a Foot will contain no more Matter, being fill'd with Gold then Air. Nay, in ſome Sence it may be ſaid that being fill'd with Air, it contains more matter,

matter for a Reaſon not now longer here to be inſiſted on.

It may be ſaid that from the ſame Root of fore-judging of things, ſprang the fooliſh opinions of ſome, that our Souls are either the thinneſt part of the Air compos'd of *Atoms*, according to *Democritus* with the *Epicureans*, or the Air kindled, as the *Stoicks*; or a particle of Celeſtial Light, as the *Manicheans*, or of later days *Flud*; or a ſuttle Wind, as the *Socinians*; for none of theſe could ever perſwade themſelves that Wood, Stones or Durt could ever be capable of thinking. And therefore *Cicero* at the ſame time that he aſſerts with the *Stoicks*, our Soul to be a ſuttle Flame, places it among abſurdities, not to be endur'd to think it ſhould e're derive its Original from Earth or thick Air; *For* ſaith he, *I beſeech ye, is it poſſible to think that ſuch a force and maſs of Memory was ever ſowed in the Earth to ſpring up again, or thicken'd together out of Cloudy and Foggy Air?* For they believ'd that the more ſuttle and pure they made the matter, ſo much the leſs material, the leſs thick and corporeal it would be, that ſo at length they might rarify it into a *thing of Thought*, which however is very ridiculous; for a Body is not thinner then a Body, only that it is divided into leſſer particles, and more eaſily agitated. For thus on the

the other ſide it makes leſs reſiſtance then other Bodies; on the other it more eaſily penetrates their Pores. But whether it be indiviſible or divided, whether it reſt or be mov'd, however it is not leſs material, leſs corporeal, or more capacious of Thought, it being impoſſible that the motion or figure of the Matter whether ſuttle or thick ſhould have any thing common with Cogitation; or that a certain part of the matter that never thought, when it reſted like the Earth, or was gently mov'd like the Water, ſhould come to a knowledg of it ſelf upon a more vehement Motion or augmenting the force of Agitation.

Much more might be ſaid upon this Subject, but this ſhall ſuffice for the underſtanding of all confus'd *Ideas*, when they have all their Cauſes like to theſe.

There is one Remedy for this miſchief, to caſt away all prejudicate opinions ingrafted in our Infancy, and to aſſert nothing of what it belongs to Reaſon to pronounce, becauſe we ſo judg'd it heretofore, but becauſe we now judg it to be ſo upon Examination. So ſhall we have only natural *Ideas*, and for ſuch as are confus'd, we ſhall only retain thoſe that are clear, as that there is ſomething in the Fire which is the reaſon that I feel the heat; that all things which are ponderous,

are

are puſh'd down by ſome certain cauſe; not determining any thing of what is in the Fire that cauſes that burning, or of the cauſe that makes the Stone fall down till I find my knowledg confirm'd by clear Reaſons.

CHAP. IX.

Some Examples of confus'd and obſcure Ideas *drawn from* Ethics.

IN the former Chapters we have brought ſome Examples of confus'd *Ideas*, which for the reaſons given we legally aſſert to be falſe; But being all taken out of Phyſicks, it may not be from the purpoſe to produce ſome others out of *Ethics*, in regard that falſe *Ideas*, which are form'd of Vertues and Vices, are far more dangerous.

Nor indeed is any one more happy, or more unhappy becauſe he has a true or falſe, a clear or obſcure *Idea* of *Ponderoſity*, *Senſible Qualities*, *or the Senſes*. If in thoſe things he be more or leſs knowing, he will neither be the better nor the worſe; whatever our opinion be touching thoſe things, we ſhall never alter

alter it for our own ſakes. Their Being is independant from our knowledge, and the Conduct of our Life is Independant from their Being. So that all Men are allow'd to await that Knowledg which ſhall be our portion after this Life, and to leave the Government of the World to the Goodneſs and Wiſdom of God who governs it.

But no Man can excuſe himſelf from endeavouring to acquire a right Information concerning Vertue and Vice, becauſe that from the preſcripts of Judgments made upon theſe things, our Lives are to be govern'd, our Manners compos'd, and the Eternity of good or evil to be expected.

And as the falſe *Ideas* of Vertue and Vice are the reaſon that we judg amiſs of 'em; ſo infinitely better would it be to know and amend theſe with Care and Induſtry, then to ſtudy the rectifying of thoſe other, which precipitancy of Judgment, or the prejudicate errors of Youth have obtruded upon us in reference to natural things, which can only ſupply Matter for lean and barren Speculation.

To diſcover all thoſe falſe *Ideas*, would require a Tranſcription of the whole Body of *Ethics*; but our only deſign here is to propoſe certain Examples of the manner, how they are form'd by annexing together ſeveral *Ideas* that are not really annexed, which produces

produces ſeveral vain and idle Phantoms, which Men never ceaſe hunting after, and miſerably waſte their time in hopes to attain that which is of no value when attain'd.

Man finds in himſelf the *Ideas* of Miſery and Happineſs, which is neither falſe nor confus'd, while general and abſtracted: He has alſo the *Ideas* of Baſeneſs and Excellency. He covets Happineſs, avoids Miſery; he admires Excellency, deſpiſes Baſeneſs.

But the Contamination of Sin, which has alienated God from Man, in whom alone he could have found true felicity, and to whom alone he ought to affix the *Idea* of it, has affix'd this *Idea* of Happineſs to an Innumerable company of other things. To the Love and Proſecution of which Man is carried headlong, as if he thought to recover his loſt felicity in *them.*

Hence has ariſen a vaſt heap of falſe and obſcure *Ideas*, while every one thinks he ſhall be happy in the poſſeſſion of what he loves; miſerable, if depriv'd of it. But Man has loſt his true Nobility, and real Excellency by Sinning. Hence, that he may love himſelf, he is conſtrain'd to repreſent himſelf to himſelf, other then what indeed he is, and to hide his Indigencies and Miſeries from himſelf; to add many things to the *Idea* of himſelf, which belong not to him to the end he may

may appear Greater and more *Auguſt.* And now behold the common Series of theſe falſe *Ideas.*

The firſt and chiefeſt is the propenſity of Concupiſcence to the Pleaſures of the Sence, ariſing from ſome exterior things: For when the Soul perceives that her darling Pleaſures proceed from thoſe things, ſhe immediately joyns the *Idea* of good to thoſe things, and the *Idea* of bad to thoſe other things that deprive her of thoſe Pleaſures. And obſerving afterwards that Power and Riches are the uſual Inſtruments, whereby to acquire the means to indulge Concupiſcence, ſhe begins to eſteem theſe for great Happineſſes, and pronounces for Bleſſed, the Rich and Potent that enjoy 'em; the poor miſerable, for being depriv'd of theſe Delights.

But now as Felicity has always Excellency for her Companion, the Mind never ſeparates thoſe two *Ideas*, but always looks upon as great, all thoſe that ſhe conſiders as happy, and as little and mean, all thoſe that are poor and unhappy. And this is the reaſon that we contemn the poor, and admire the opulent. But theſe are ſuch unjuſt and falſe Judgments, that St. *Thomas* believes, it is this worſhip and admiration of Riches, which is ſo much condemn'd by St. *James* the Apoſtle, while he forbids a more honourable place to be aſſign'd to the

the Rich then to the Poor; tho' this place is not to be ſo literally expounded, as if we were not to ſhew ſome outward-veneration to the Rich, which is not due to the Poor; ſeeing that the order of the World, which Religion does not diſturb, requires it, and this practiſe has been all along obſerv'd among men, highly eminent for their Piety. And therefore it is to be underſtood of that inward reſpect, which looks upon the Poor as ſubjected under the Feet of the Rich, and the Rich as infinitely exalted above the Poor.

But though theſe Ideas and the judgments that ariſe from thence are falſe and unreaſonable, yet are they common to all men that have not rectifi'd 'em, as proceeding from concupiſcence with which all men are infected. Hence it happens that we not only think ſo honourably of the Rich, but that we alſo know that all other Mortals render 'em the ſame honour and eſteem. So that we repreſent to our ſelves their Condition not only as environ'd with all ſplendour and advantages that attend it, but worſhip it with all that inward Adoration of Judgments with which we flatter the Wealthy, and are known not only by the Common Diſcourſe of Men, but by our own Experience.

This Phantome of a Rich man, whom the Croud of his admirers ſurround, gaze upon with

with fixed Eyes, and reverence with an inward Worſhip of Fear, obſervance and abject ſervility, is the true Idol of the Ambitious, for for whoſe ſake they endure ſo many miſeries and throw themſelves into ſo many dangers.

Now that it may appear that this is that which they all covet and adore, let us ſuppoſe that there were but one only man in the World endu'd with Reaſon, and all the reſt men meerly in ſhape, were all but Statues mov'd by Engines; and that that one Thinking Man, knowing well that all thoſe Statues that reſembl'd him outwardly, were all depriv'd of reaſon and thought, had a ſecret way to move 'em by certain Springs ſo that they might perform all the Offices which he had a mind to require from men; we may believe this Perſon would ſometimes take pleaſure to divertiſe himſelf with the ſeveral Movments he ſhould give to theſe Statues; but certainly he could never delight himſelf or take any pride in the Honours, Bows and Cringes that they made him: rather he would be as weary of 'em as of ſo many Puppets; and at length would ſatisfie himſelf with ſuch a train as ſhould ſuffice for neceſſary Services, without deſiring any greater number of theſe Statues then ſhould be for his uſe.

So that it is not the ſimple and external Obedience of Attendants ſeperated from the inter-

nal ſubmiſſion of the Mind that is the Object of aſpiring Ambition. 'Tis Dominion over men not Statues which they covet; and the pleaſure of thoſe that Rule proceeds from the impreſſions of Fear, eſteem and admiration which they imprint in others.

From whence it is manifeſt that the Idea with which they are blinded is no leſs vain and empty, then the Idea of thoſe whom we properly call *Vain-glorious* men, who are they that feed themſelves with Praiſes, Eulogies, Titles, and other things of this nature: The only thing that diſtinguiſhes the one from the other is the ſingle difference of Opinions and Judgments, which both are deſirous to communicate to others. For as it is the main deſire of the *Vain-Glorious* to excite in others a ſenſe of Love and Eſteem for their Knowledg, Eloquence, Wit, and Dexterity; 'tis the delight of the ambitious to excite in others motions of Terrour, of Obedience and Submiſſion to their Grandeur, and Ideas conformable to thoſe judgments, by means whereof they appear formidable, exalted and Potent. So that both the one and the other place their happineſs in the Thoughts of another: but the one make choice of one ſort of Thoughts, the other of another.

There is nothing more common then to ſee theſe vain Phantomes compos'd of the falſe Judg-

Judgments of men, how they overturn Enterprizes of greateſt importance, as being the principal mark to which all the Actions of our lives are directed.

That ſame Valour ſo highly eſteem'd in the World, which cauſes them that would be ſignaliz'd for brave and ſtout, to throw themſelves into the moſt apparent and threatning dangers, is no more oft times then an over earneſt bending the Mind to theſe vain and ſhallow Things that fill the Brain. Few Perſons when they are ſerious deſpiſe Life, and they who ſeem to dare death at a Breach or in a Battel, tremble like others and frequently are more afraid when Death attacques 'em in their Beds. But this ſame bravery of theirs which they ſhew upon ſundry Occaſions proceeds from hence; that they have ſtill hovering before their Eyes the reproaches thrown upon Cowards and Puſilanimous Creatures; and on the other ſide the applauſes which are given to the Valiant; and the Phantoſm ariſing from theſe two Conſiderations ſo poſſeſſes their Minds, that they have no leiſure to think upon Death.

For this reaſon the Perſon that is moſt converſant in the ſight of men, becomes the moſt Generous and Brave; and that, becauſe of the Judgments which other men make of him. Hence it comes to paſs that the Captains are

more couragious then the Common Souldiers, and that the Nobility and Gentry carry more lofty minds then the Ordinary Sort of People. For that having more honour to looſe and to acquire, they are more ſenſible and jealous of it. The ſame labours, ſaid a great Captain, are not equally toylſome to a General of an Army and a Common Soldier: For the Captain of an Army, upon whom the Eyes of all men are fix'd, is thruſt forward to difficult undertakings, whereas a Common Souldier dilates his thoughts no farther then the hopes of his Pay, or the gains of Plunder, or the Reputation of being ſtout, which ſeldom extends beyond his own Regiment.

What do they propoſe to themſelves that build ſuch ſtately Fabricks above their Condition and their Fortune? Not the advantage of commodious living therein. For ſuch a coſtly Magnificence does 'em more harm then good; and it is evident, that if they were alone in the World, they would never put themſelves to that Charge and trouble; or if they thought they ſhould be deſpis'd by all that ſaw thoſe Houſes. Therefore the Houſes are built for the ſake of others that they think will applaud the Buildings. They imagine that all that ſhall behold thoſe Palaces, will entertain motions of Reſpect and Admiration for the Maſter. And therefore

they

they repreſent themſelves to themſelves as in a Theater, ſitting in the midſt of their Palaces environ'd with crouds of People, that behold all from top to bottom, and thence conceive 'em Great, Potent, Happy and Magnificent; and this *Idea* filling their Minds, ſpurs 'em on to thoſe expences and to be at that trouble.

Why do men load their Coaches with ſuch a great number of Lacqueys? Not for the great ſervice they do, for they are rather a trouble then a Convenience; but to imprint in the minds of the beholders an *Idea*, that it is ſome perſon of great Quality that paſſes by; and the proſpect of that *Idea*, which they imagine the ſight of a Coach ſo loaden will create in the beholders, ſatisfies the vanity of him to whom thoſe Coaches belong.

And thus, if we weigh in the ſame ballance all Conditions, all Employments, all Profeſſions that are eſteem'd in the World, we ſhall find that that which renders 'em delightful, and alleviates the pains and toyl that attends 'em, is this, that they repreſent to the Mind the *Ideas* of Reſpect, Eſteem, Fear and Admiration that others have for us. On the other ſide, that which renders ſolitude tedious to the moſt part of the World, is this, that in ſeperating themſelves from the view, they alſo ſeperate themſelves from the judgments and thoughts

of men. For ſo their hearts become empty and famiſh'd as being depriv'd of their uſual nouriſhment, and not finding in themſelves, wherewithal to feed their Thoughts. And therefore the Heathen Philoſophers deem'd a ſolitary Life ſo inſupportable; that they ſcrupl'd, not to aver, that a wiſe man would not be bound to enjoy all the bleſſings of Body and Mind, to live alone; and not to have any perſon to whom he might impart his happineſs by diſcourſe. And indeed there is nothing but the Chriſtian Religion that can render Solitude deſirable; for becauſe it teaches men to deſpiſe the World, it affords 'em at the ſame time other Objects to employ the mind and more worthy to fill the heart, for which they have no need of the ſight and commerce of Company.

But here it is to be obſerv'd, that the deſires of men do not terminate in knowing the thoughts and judgments of others concerning themſelves; but being known, they make a farther uſe of 'em to aggrandiſe and exalt the *Idea* which they have of themſelves, adding to *them*, and incorporating other Aſcititious and Forreign *Ideas*, and imagining through a groſs deluſion that they are really greater, becauſe they live in a larger Houſe, and that there are more people who admire 'em. Though all theſe things are extrinſecal as to them-

themſelves, and belong not to 'em at all; nor can the thoughts of other men preſerve or vindicate 'em from the want and miſery to which they were before obnoxious.

From whence we may diſcover what it is that renders agreeable to men ſeveral things which otherwiſe are altogether incapable to divert and delight the mind. For the reaſon of the pleaſure that men take therein ariſes from this, that the *Idea* of themſelves repreſents 'em to themſelves greater then ordinary, by means of ſome vain circumſtance which they add to it.

They take delight in diſcourſing of the dangers they have run, as forming from the accidents an Idea which repreſents us to our ſelves either as prudent, or elſe particularly favour'd by God. We love to diſcourſe of ſickneſſes we have eſcap'd, as repreſenting to our ſelves the ſtrength of our Bodies, able to encounter ſuch deſperate attacks of Mortality.

We love to be Victorious in every thing, even in Play, wherein there is nothing of cuning but all hazard, though we do not play for gain; adding to our own *Idea* the Idea of Happineſs at the ſame time. This imaginary happineſs we are apt to think, belongs to us, as a permanent Quality, which makes us claim the ſame ſucceſs for the future as our Right. Thus

Gameſters chuſe to try the Fortune of the Dice with ſome before others: which is nevertheleſs very ridiculous: for a man may be ſaid to have liv'd happily to ſuch a moment; but that he ſhall have the ſame Fortune the next hour; there is no farther probability, but that we may be as certain that they who have been hitherto miſerable, may for the future be happy.

And thus their Minds who are addicted to the World, have no other Objects of their deſires, then theſe vain Chimera's that daily diſtract their Brains; and even they who carry the greateſt reputation for wiſdom, feed themſelves with theſe Dreams and Deluſions. And therefore only they who direct their Lives and the Action of their Lives to Eternal Things, may be ſaid to fix their thoughts upon real, ſolid, and permanent Objects, when all others do but follow vanity and empty Nothing, and give themſelves over to Lies and Errours.

CHAP.

CHAP. X.

Of another Cauſe of Confuſion in our Thoughts and Diſcourſe; Ideas annex'd to Words.

WE have already ſaid that the Neceſſity we have to make uſe of External ſigns to expreſs our Minds, is the reaſon that we fix *Ideas* to words in ſuch a manner, that many times we conſider the words more then the things.

For it is to be obſerv'd, that tho' Men have frequently different *Ideas* of the ſame things, nevertheleſs they make uſe of the ſame words to expreſs 'em; as the *Idea* which a Heathen Philoſopher has of Vertue, is not the ſame which a Divine hath, yet both expreſs their *Idea* by the ſame word *Vertue*.

Moreover the ſame Men at different Ages have conſider'd the ſame things after very different Manners; and yet they have rammaſs'd all theſe *Ideas* under one name: which is the reaſon that in pronouncing the word or hearing it pronoun'ced, a Man is preſently Confounded, apprehending the word ſometimes according to one *Idea*, ſometimes according to another. For Example, a Man underſtanding

underſtanding that he has ſomething within him, whatever it be, which is the occaſion of his Nouriſhment and Growth, has call'd it a *Soul*, and has extended this *Idea* not only to what reſembles it in Animals, but in Plants.

And perceiving alſo that he had *Thoughts*, he has call'd this principle of *Thought* by the Name of the Soul. Whence it has come to paſs that by this Reſemblance of the name, he has taken for the ſame thing, the principle of Thought, and the principle of Nouriſhment and Growth. In like manner the name of *Life* is given to that Faculty from whence the Animal functions proceed, as alſo the Cogitative Faculty, which are two things abſolutely different.

Thus theſe words, *Sence* and *Senſation*, when they are ſpoken of any of the five Senſes, are vehemently peſter'd with *Equivocations*. For three things happen to us when we make uſe of our Senſes, as 1. when we ſee any thing. There is a Motion in the Corporeal Organs, as the Brain and Eye. 2. Theſe motions give an occaſion to the Soul to perceive ſomething. As when by the motions firſt begun in the Eye, by the reflexion of the Light, in the falling Rain oppos'd to the Sun-Beams, it has the *Ideas* of Red, Blew, and Yellow. 3. We make a Judgment of what we

we ſee; and thus we judg theſe Colours to belong to the Rainbow, which we pronounce to be of ſuch a Magnitude, of ſuch a Figure, and at ſuch a diſtance from us. Of theſe three the firſt only belongs to the Body; the other two ſolely to the Mind; however by occaſion of what is perform'd in the Body. Nevertheleſs we comprehend all theſe three things under the name of the *Sence* or *Senſation* of the Sight or Hearing. For when we ſay the Eye ſees, or the Ear hears, it cannot be underſtood but according to the Corporeal Organ; it being apparent that the Eye does not apprehend the objects which it ſees, nor judg of 'em. On the other ſide we do not ſay we have ſeen ſuch a one, if the mind call'd off by another object has not made reflection upon the perſon that preſented himſelf before our Eyes. And then we take the word *See* for the thought form'd in our Mind, in purſuit of what paſs'd in our Eye and in our Brain. And according to this Signification of the word *See*, it is the Soul and not the body which ſees, as *Plato* maintains and *Cicero* after him. *For indeed* ſaith he, *we do not now behold with our Eyes the thing which we ſee; for there is no ſence in the Body. There are as it were certain Paſſages made from the ſeat of the Soul to the Eyes, the Ears and Noſe, and therefore ſeeing often interrupted either by ſome*

thought

thought, or the force of ſome Diſeaſe, we neither hear nor ſee with open or entire Eyes or Ears. Whence we may eaſily apprehend that the Soul both hears and ſees, not thoſe parts which are but as the Windows of the Soul. In ſhort, we take thoſe words *Senſation* of Sight, Hearing, *&c.* for the laſt of theſe three things, that is, for the Judgments which the Soul makes in purſuance of the Preceptions it has made, by occaſion of what paſs'd in the Corporeal Organs, as when we ſay the Sences are deceiv'd, at the ſame time that we ſee a crooked Stick ſo appearing in the Water, or the Sun but two foot in Diameter. For it is certain there can be no Error or Falſity neither in thoſe things that happen in the Corporeal Organs, nor in the bare Perception of the Soul, which is only a ſimple apprehenſion; but the Error proceeds from hence, that we judg amiſs, in concluding that the Sun is but two Foot in Diameter, in regard that by reaſon of its vaſt diſtance from us, it comes to paſs that the Image of the Sun which is form'd in the bottom of the Eye, is near at hand, of the ſame bigneſs which an object of two Foot would form at a diſtance more proportionable to our manner of Sight. But becauſe we have made this Judgment in our Youth, and for that we are ſo much accuſtom'd to it, that it is made at the ſame Inſtant that we ſee the Sun

Sun, without any Examination hardly, we attribute it to the Sight, and we ſay we ſee the objects little or great, as they are nearer or more diſtant from us, tho it be indeed the Mind, not the Eye that judges of their ſmallneſs or magnitude.

All Languages are full of words of the ſame nature, which not having any more then one Sound, are nevertheleſs the ſignifications of *Ideas* altogether different.

But we are to underſtand that when an Equivocal word ſignifies two things which have no Relation one to another, and which Men have never confounded in their thoughts, it is almoſt impoſſible that Men ſhould thereby be deceiv'd, or that they ſhould be the cauſe of Errors. For the Equivocal word *Aries* a *Ram*, which ſignifies both a certain Creature, and a *Sign* in the *Zodiac*, ſhall never impoſe upon a Perſon that has but a grain of common Sence. Whereas it is a difficult thing not to be deceiv'd when the Equivocation ariſes from the errors of Men, who have negligently confounded different *Ideas*, as in the word *Soul*; for we take it for granted, that they who firſt made uſe of thoſe words, did inquire into their Significations, and ſo it ſuffices us to pronounce 'em, without ever examining whether the *Idea* which we have of it be clear and diſtinct. Nay, ſometimes we

we attribute thoſe things to the ſignification of the ſame word, which falls not, but upon *Ideas* of things altogether Incompatible, not perceiving that we have confounded two different things under the ſame Word.

CHAP. XI.

Of the Remedy of Confuſion *in our* Thoughts *and* Ratiocinations, *ariſing from the Confuſion of Words: Of the Benefit of defining Words; and of the difference between the definition of* Things *and* Names.

THE beſt way to avoid the confuſion of Words, which we find in different Languages is to make a new Language, and to coyn new Words, to belong only to thoſe *Ideas*, which they are aſſign'd to ſignifie. To which purpoſe there is no neceſſity to frame new Sounds of Words, becauſe we may make uſe of ſuch as are uſually practis'd, looking upon 'em, as if they had no ſignification, that we may aſcribe to 'em thoſe Notions which we intend 'em; which it behoves us deſign by other ſimple words, free from all Equivocation. Thus were it to be prov'd, that the Soul is Immortal, this Word *Anima*, the Soul, being

being *Equivocal*, will eaſily make a Confuſion in what is to be ſaid. For the avoiding of which, I will retain this word *Soul*, as a ſound deſtitute of all Notion, and make uſe of it only to denote that thing which in us is the principle of Thought, by ſaying *I call the Soul that, which in us is the Principle of Thought.*

Behold here the definition of the word, with ſo much benefit made uſe of by the Geometricians, which is cautiouſly to be diſtinguiſh'd from the definition of the thing.

For in the definition of the thing, as thus, *a Man is a Rational Creature*, *time is the meaſure of motion*, we leave to the Term defined, that is *Man*, and *Time* the uſual notion wherein we aſſert other *Ideas* to be contain'd, as the *Idea* of *Rational Creature*, *Meaſure of time*, whereas in the definition of the word, as we have already ſaid, we only mind the Sound, and afterwards determine the ſound to be the ſign of ſome *Idea*, deſign'd for other Words.

But great heed is to taken leaſt we confound this definition of the word of which we here diſcourſe, with that other of which others ſpeak, who will have it be the explanation of what a word ſignifies according to the vulgar Idiom of the Language, or its Etimologie, which we ſhall ſpeak more of in another place.

place. But here we only mind the particular uſe to which he that defines a word, will have it apply'd for the better underſtanding his meaning, not caring whether it be taken in the ſame Sence by others.

And from hence it follows 1. That the Definitions of words are at pleaſure, but that thoſe of things are not ſo. For every Sound being of it's ſelf and in it's own nature indifferent, to ſignifie any thing, it is lawful for me for my particular uſe, provided I advertiſe others of it, to determine a Sound to ſignifie any thing preciſely without the mixture of any other. But it is quite otherwiſe with the Definition of things. For it does not depend upon the pleaſure of men that *Ideas* ſhould include whatever they would have 'em to include: for that if in defining *Ideas* we add any thing which they do not comprehend, we fall into inevitable Errour.

To give an Example of the one and the other: If in deſpoiling the word *Parallellogram* of all other ſignification, I apply it only to ſignifie a *Triangle*; this is lawful for me to do, nor do I commit any Error in ſo doing: nay provided I only take it in this Manner; I may affirm that a *Parallellogram* has three Angles equal to two Right Angles. But if I leave the Vulgar *Idea* to this word, to ſignifie a Figure whoſe ſides are Parallel, and yet

yet affirm that a Parallellogram is a figure consisting of three Lines, in regard this would be then a Definition of the Thing, it would be absolutely false; it being impossible that a Figure consisting of three Lines should have it's sides Parallel.

In the second place it follows, that Contentions about the Definitions of words ought not to be rais'd, for that Reason, because they are Arbitrary. For you cannot deny that a man has not given the signification to a Sound which he says, he has, after he has given notice of it, nor that it has not that signification according to the use which he makes of it; but we may contend about the Definitions of Things because they may be false, as we have already shewn.

Thirdly it follows that every Definition of a word when it cannot be call'd in Question, may be taken for a Principle. Which cannot be said of the Definitions of Things; in regard they are propositions that may be deny'd by those who shall find any Obscurity therein. And therefore like other Propositions they ought to be prov'd, and not to be taken for True; unless they appear perspicuous in themselves, like Axioms.

But as to what I said but now, that the Definition of a Name may supply the place of a Principle, it requires a farther Illustration.

For it is only true, in regard it cannot be controverted but that the determin'd Idea may be call'd by the aſſign'd name. Nevertheleſs we ought not to conclude any thing of the Idea it ſelf, nor to believe it can exhibite any thing poſitively to us for that reaſon alone, becauſe it is call'd by ſuch a Name. For Example, I may define the Name of *Chimera* and ſay, I call a *Chimera* that which implies a contradiction; however it does not thence follow that a *Chimera* is any thing. In like manner, a Philoſopher ſays to me; I call Ponderoſity the Interior Principle which cauſes a Stone to deſcend without any compulſive violence; I ſhould willingly grant the Definition without contradiction, becauſe it leads me to the knowledg of what he deſires to make me underſtand; but I will deny, that what is ſignified by the word Gravity is any thing real, in regard there is no ſuch principle in Stones.

I will explain this a little farther, becauſe there are two great Errours committed in Vulgar Philoſophy upon this Subject. For it confounds the Definition of the Name with the Definition of the Thing, and attributes to the former what only belongs to the Second. For the Philoſophers having coyn'd an infinite number not of Names but of Things accord- to their own Fancies which are altogether falſe

falſe, as not explaining neither the Nature of Things nor the *Ideas* which naturally we have of 'em, yet they obtrude theſe Definitions upon us for ſuch as are not to be contradicted. So that if any one deny 'em, when deſervedly they may be denied, they exclaim againſt him as one that ought to be exterminated the Schools, as not fit to be diſputed with.

Secondly the vulgar Philoſophers very ſeldom or never make uſe of thoſe Definitions of names, to remove or clear any obſcurity, nor fix 'em to any certain *Ideas* clearly deſign'd, but leave 'em in darkneſs and confuſion. Whence it happens that moſt of their diſputes, are only diſputes of words; and whatever is clear and true in Ideas, that they abuſe, to eſtabliſh and maintain, what is confus'd and dark in the ſame: which Errour would be avoided by the Definition of the Name. Thus the Philoſophers believe that there is nothing in the World more unqueſtionable then that Fire is hot, or that a Stone is heavy, and that it would be a folly to deny either. Which indeed they may make all the World believe, ſo long as they forbear from the Definition of Names. But when once they do that, it will preſently appear what is obſcure, and what apparent in reference to thoſe things. Firſt then it is to be ask'd 'em,

what they mean by theſe words *Hot* and *Ponderous*? For if they anſwer that by *Hot* they only mean that which is only proper to cauſe in us a Sentiment of Heat, and by *Heavy* that which falls downward not being propt up; they may then deſervedly ſay, that it is a folly to deny Fire to be *Hot* and Stones to be *Heavy*. But if they mean by *Heat* that which has in it's ſelf a Quality like to that which we imagine when we feel heat; and by *Heavy* that which has in it ſelf an Internal Principle which cauſes it to fall to the Center, not being compell'd by any violence from without; it will be eaſy then to demonſtrate to 'em, that it is no denial of a clear thing, but of a thing which is very obſcure, if not altogether falſe, that Fire is hot in that Sence, or that a Stone is heavy; in regard it is apparent that Fire cauſes in us a ſence of Heat, by that action whereby it operates upon our Bodies, but it is no way evident that there is in the Fire any thing like to that which we feel in the Fire. And it is as evident in the ſame manner that Stones fall down; but it is not ſo clear, that they fall of themſelves without any outward detruding Violence.

Thus we ſee the great benefit of defining names, for that by this means we underſtand what it is we diſpute of, that we may not contend in vain about words, which

we

we underſtand ſome one way, ſome another, as is frequently practis'd even in our ordinary diſcourſes.

But beſides this benefit there is alſo another, which is, that we cannot many times have a diſtinct *Idea* of a thing, unleſs we make uſe of many words to denote it. Now it would be Impertinent eſpecially in writings that concern the Sciences to be always repeating a long Series of words. And therefore having once defin'd the thing by ſeveral words, we fix to ſome one word the *Idea* conceiv'd to ſerve inſtead of all the reſt.

Thus after we have found that there are numbers that may be divided into two equal Numbers, to avoid the often repetition of thoſe words, we fix this Propriety, and call a number that may be divided into two equal Numbers, an *even Number*. Whence it is apparent, that as often as we make uſe of the defin'd Name, the Definition is to be mentally ſuppli'd, which a Man muſt have always ſo ready in his Mind, that as ſoon as he hears even Numbers, he preſently underſtands ſuch a number as may be divided into two Numbers: and theſe two things ought to be ſo inſeparable from the thoughts, that the Tongue ſhould no ſooner expreſs the one, but the Mind ſhould add the other. For they who have defin'd Names as the Geometrici-

ans do with ſo much Care, did it only to abridg their Writings (or as St. *Auſtin* ſays) *Leaſt by continual Circumlocution they ſhould Create delays*: but yet they do not do it to abridg the *Ideas* of the things of which they diſcourſe, believing the Mind will ſupply the entire Definition to ſhort words, which they only make uſe of to avoid the Perplexity which multitude of words would produce.

CHAP. XII.

Certain Obſervations of great Importance, touching the Definition of Words.

HAving thus explain'd the nature, benefit and neceſſity of the definition of Names, it will not be from the purpoſe to ſpeak ſomething of their uſe, leaſt an ill uſe be made of 'em.

Firſt, all Names are not to be defin'd; for that would be often unprofitable and impoſſible to be done. I ſay unprofitable; for that when the *Ideas* conceiv'd of things are diſtinct, and that all Men underſtanding the ſame Language, conceive the ſame *Idea*, it would

would be ſuperfluous to define ſuch a name, becauſe we have already the intent of the Definition, as being fix'd without a definition to the diſtinct and clear *Idea.*

But this happens in things that are purely ſimple, of which all Men naturally have the ſame *Idea*, ſo that the words by which they are denoted, are underſtood by all men in the ſame ſence, or if there be any mixture of obſcurity, that which is clear is primarily underſtood. And ſo they who make uſe of ſuch words to denote a clear *Idea*, need not fear leaſt they ſhould be underſtood amiſs. Such are the words, *Ens, or being, Thought, Extenſion, Equality, Duration* or *Time.* For tho' ſome may obſcure the *Idea* of Time by ſeveral Propoſitions, which they call Definitions; as *that Time is the meaſure of motion according to Priority and Poſteriority*; nevertheleſs they never mind theſe definitions themſelves, when they ſpeak of Time, nor do they conceive any other thing of it. So that both Learned and Unlearned with the ſame facility underſtand the ſame thing when they hear, *that a Horſe takes up leſs time in pacing a Furlong then a Tortoiſe.*

I have ſaid moreover, that it is impoſſible to define all words. In regard that to define ſome words, there is a neceſſity of uſing other words that expreſs the *Idea*, to which that

word is to be annex'd. And then if these words which were made use of to explain the the first, be also to be defin'd; there will be a necessity for other words, and so to the Worlds end. And therefore there are some primitive words which cannot be defind, and it would be as great a fault to be too curious about their Definitions, as not to define sufficiently; for both ways we fall into the same Confusion, which we labour to avoid.

The second observation is, that we ought not to change Definitions known and already receiv'd, unless we meet with something in 'em that is to be found fault with; for it is always more easy to teach the signification of a word to others, when Custom already receiv'd, at least among the Learned, has fix'd it to an *Idea*, then to annex it anew to another *Idea*, and force it from a former, to which it has been properly join'd by daily use. And therefore it would be a great error to alter the Definitions receiv'd by the Mathematicians, unless where there are any that are not sufficiently plain and obvious to Sence, or such whose *Ideas* are not Politely describ'd as in *Euclid* may be thought the Definition of *Angle* and *Proportion*.

Thirdly it is to be observ'd that when there is a necessity to define a name, it behoves us to approach as near as may be to common Custom,

Cuſtom, and not to give to words a Sence altogether foreign to what they already have, or which are contrary to their Etimologie; as if a Parallelogram ſhould be defin'd, a figure conſiſting of three Lines. But if the word has two ſignifications, it muſt be depriv'd of one, that the other may be only affix'd to it. Thus when *Heat* ſignifies as well the feeling which we have of it, as the *Quality* which we believe to be in the Fire, like to that which we feel, to remove this ambiguity, I will uſe the name of *Heat*, but I muſt not apply it but to one of theſe *Ideas*, diſmiſing it from the other, ſaying, I call *Heat* that feeling which I have when I come near the Fire; and to the cauſe of this *Senſation* I would give a name altogether different, as of *Ardour* or *Burning*; or elſe the ſame name with ſome addition, which determines and diſtinguiſhes it from Heat taken for the *Senſation* of it, as is that of *Virtual-Heat*.

The reaſon of this obſervation is taken from hence, that Men after they have once affix'd an *Idea* to a word, are not eaſily induc'd to ſeparate it from the word: and ſo the old *Idea* ſtill returning, obliterates the new which they have from the late Definition. So that Men more eaſily accuſtom themſelves to a word of no Signification, as if a

Man

man ſhould rather uſe the word *Bara* to ſignifie a Figure conſiſting of three Lines, then deſpoyl the word *Parallellogram* of the *Idea* of a Figure whoſe oppoſite ſides are Parellel, to make it ſignifie a Figure whoſe oppoſite ſides are not Parallel.

This is an Errour into which all the Chymiſts are fallen, who take delight to change the names of the moſt things of which they diſcourſe, and to give them names which already ſignifie quite other things, and which have no correſpondence with the Ideas to which they joyn the words. Hence thoſe ridiculous Ratiocinations of ſome of thoſe people, particularly of one who aſſerts, that the Peſtilence as he imagin'd, being a *Saturnine Diſeaſe*, was to be cur'd by hanging about the Neck of the Patient, a plate of Lead, which is call'd *Saturn* by the Chymiſts, and whereon is alſo to be engrav'd upon a Saturday, which day is alſo ſacred to *Saturn*, the *Character* by which the Aſtronomers denote that Planet. As if arbitrary and feigned ſympathetic Affinities between Lead and the Planet *Saturn*, or between the ſame Planet and *Saturday* or the little Signature of the Aſtronomers could be any way effectual for the Cure of Diſeaſes.

But that which is more inſufferable in this jargonry, or gibbriſh of the Chymiſts, is their

their Prophaning the Sacred Miſteries of Religion to make 'em ſerve as a Vail to cover their pretended Secrets; inſomuch that ſome are arriv'd at that hight of Impiety; as to apply what the Scriptures ſpeaks of the true Chriſtians, *That they are the Choſen Race, the Royal Prieſthood, the Holy Nation, the People purchas'd by God, and whom he has call'd out of darkneſs to his wonderful Light*, to the Chimerical Fraternity of the *Roſie Crucians*, whom in their own Imaginatious they term the only wiſe men that have attain'd Immortal Happineſs; as having by vertue of the Philoſophers Stone found out the way to fix the Soul in the Body; for as much, ſay they, as there is no Body ſo fix'd and incorruptible as Gold. Of which dreams, and of ſeveral others of the ſame nature there are to be found a great number in *Gaſſendus*'s *Examen* of *Fludd*'s Philoſophy. Which demonſtrates that there is no diſeaſe of the mind more dangerous then that of Enigmatical Scribling, which cauſes men to imagine that their leaſt ſolid thoughts, if I may not call 'em falſe and altogether Impious, will paſs for great Myſteries, if clad in words unintelligible to the Common ſort of men.

Chap.

CHAP. XIII.

Of another ſort of Definition of Names by which their Significations are denoted according to Common Uſe.

ALL that has been ſaid of the Definition of names, ought to be underſtood only of thoſe, by which every one defines the words for his particular uſe; and this is that which renders 'em free and Arbitrary, it being in the power of every one to make uſe of what Sound he pleaſes to expreſs his *Ideas*, provided he give notice before hand. But in regard that men are not perfect Maſters of any but their own language, every one has a priviledge to make a Dictionary for his own Uſe, but not for others, nor to interpret their words by particular Significations which we have fix'd to words of his own. And therefore ſeeing that notion of words is not to be explain'd which is proper to our ſelves, but that which is proper to the word according to Common Uſe, ſuch Definitions are not to be call'd Arbitrary; yet are they to be oblig'd to

to repreſent, though not the truth of the Thing, yet the truth of the Uſe; and they are to be eſteem'd falſe, if they do not really expreſs the Uſe, that is, if they do not joyn to Sounds the ſame Ideas which are annex'd to ſuch Sounds by the Common Cuſtom of thoſe that make uſe of 'em. And this demonſtrates alſo to us that Definitions may be conteſted, becauſe we find daily diſputes about the ſignification which Cuſtom gives to words.

Now, though theſe ſorts of Definitions of words ſeem to be the buſineſs of the Grammarians, whoſe Province it is to make Dictionaries, which are nothing elſe but the Explication of Ideas which men have agreed to affix certain Sounds, yet may we raiſe upon this Subject ſeveral important Reflections for the rectifying our Judgments.

The firſt, which may ſerve as the foundation of all the reſt, that men do not many times conſider the whole ſignification of words; that is, that the words often ſignifie more then they ſeem to ſignifie, and that therefore they who interpret the ſignification, do not thoroughly unfold all the Ideas which the words imprint in the minds of the Hearers.

For to ſignifie in a Sound pronounc'd or written is no other then to raiſe an *Idea* by ſtriking our Ears or our Eyes. Now it comes

comes frequently to paſs, that one word, beſides the principal *Idea*, which is look'd upon as the proper ſignification of the word, excites ſeveral other Ideas, which may be term'd *Acceſſories*, of which we take little notice, although the mind receive their Impreſſion.

For Example, if a man ſhould ſay to another; *You Lie*, and that there ſhould be no more notice taken then of the principal ſignification of the Expreſſion, 'tis no more then to ſay, *You know the contrary of what you affirm.* But beſides this principal ſignification, the words according to Cuſtom raiſe an immediate Idea of Scorn and Contempt, and make a man believe that he who ſpeaks the words cares not what injury he does the other; which renders the ſignification of the words injurious and offenſive.

However ſometimes theſe *Acceſſory* Ideas are not fix'd to words by Common Uſe, but are only added thereto by him that makes uſe of 'em. And theſe are ſuch as are rais'd by the Tone of the Voice, by the Alteration of the Countenance, by Geſtures, and other natural Signs which fix to our words an infinite number of *Ideas* which vary, change, diminiſh, augment the ſignification by joyning thereto the Image of the Motions, Judgments and Opinions of him that ſpeaks.

And

And therefore if he who affirm'd that the Tone of the Voice was to be meaſur'd by the Ears of the Hearers, believ'd it ſufficient to ſpeak loud enough to be heard, he underſtood not the uſe of the Tone of the Voice, the Tone oft times ſignifying as much as the words themſelves. There is one Tone for Inſtruction, another for Flattery, another for Reprehenſion. Sometimes a man is willing that his Voice ſhould not only reach the Ears of him he ſpeaks to, but that it ſhould peirce and run through 'em. Nor would any one think it well, that a Lacquey being loudly and vehemently reprov'd, ſhould anſwer, *Sir ſpeak lower, I hear you well enough.* For 'tis the Tone of the Voice that makes one part of the Reproof; and it is neceſſary to imprint that *Idea* in the mind of the Servant, which the Maſter would have it make.

But ſometimes theſe acceſſory *Ideas* are fix'd to the words themſelves, for that uſually they thoroughly excite thoſe that pronounce 'em. And this is the reaſon that among ſeveral expreſſions that ſeem to ſignifie the ſame thing, ſome are injurious, ſome are mild, ſome modeſt, others impudent, ſome honeſt, others diſhoneſt; for that beſides the principal *Idea* with which they agree, men have affix'd other *Ideas* which are the cauſe of this variety.

And

And this obſervation may ſerve to diſcover a peice of Injuſtice very uſual among thoſe who complain of the reproaches thrown upon 'em, which is to change the Subſtantives into Adjectives. For example, if they are accus'd of *Ignorance* or *Impoſture*, preſently they cry out for being call'd *ignorant* and *falſifying* fellows, which is not reaſonable becauſe that the words do not ſignifie the ſame thing; for the Adjective, *ignorant* and *falſifying*, beſide the ſignification of the offence which they diſcover; they include the *Idea* of Scorn; whereas the Subſtantives of *ignorance* and *impoſture*, denote the thing to be ſuch as it is, without aggravation or extenuation. And we might inſtance other things that would ſignifie the ſame thing after ſuch a manner, as would include moreover a ſoft and lenifying *Idea*, and which would demonſtrate that the perſon had a deſire to excuſe and extenuate the Crime which he laid to the others charge. And thoſe are the ways which prudent and moderate men make uſe of, unleſs ſome reaſon prevail with 'em to act with more tartneſs and vehemency.

Hence alſo may be underſtood the difference between a plain and a figur'd Stile, and why the ſame thoughts ſeem much more lovely, when they are expreſs'd by a figure, then if they were reſtrain'd to a plain manner

ner of Speech. Which proceeds from hence, that figur'd expressions, besides, the principal thing, signifie the Motion and Gesture of him that speaks, and imprint both the one and the other *Idea* in the mind, whereas simple expressions sets forth only the naked Truth: For example, of this half Verse of *Virgil*,

Usque adeone mori miserum est?

were express'd simply and without a Figure;

Non est usque adeo mori miserum.

Without doubt the sentence would not have had that force; and the reason is, because the first Expression signifies more then the second; for it does not only express the thought, that it is not so miserable a thing as Men think to die; but it represents also the *Idea* of a Man, as it were provoking death; and undauntedly looking it in the face; which, without question is a great and lively Accession to the signification of the words. Hence it is no wonder that it makes a deep impression in the Hearer; for the mind is only instructed by the verity of *Ideas*, but she is not rous'd but by the representation of Affections.

——ſivis me flere dolendum eſt
Primum ipſe tibi——

——If thou wouldſt have me weep it firſt behoves thy ſelf to grieve——

But as figur'd ſtile not only ſignifies the things themſelves, but alſo thoſe affections of the mind, which we conceive in meditating and ſpeaking, we may judge from thence, the uſe which we ought to make of it, and what are the Subjects moſt proper for it. Viſible it is, that it is ridiculous to make uſe of it in matters meerly ſpeculative, which we contemplate with a calm and placid Eye, and which produce no motion in the Mind. For ſince that Figures expreſs the Paſſions of the Soul, when Figures are intermix'd where the Soul is no way mov'd, ſuch agitations of the Mind are contrary to Nature, and ſeem to be a kind of Convulſion. For which reaſon there can be nothing more prepoſterous then the ſtir and hurlyburly which ſome Preachers make, who fly out into fury and extravagant Bombaſts, upon all manner of Subjects, and who are no leſs furious upon Philoſophical Digreſſions, then upon truths, the moſt weighty and neceſſary for Salvation.

On the other ſide, when the Subject of the Diſ-

Diſcourſe is ſuch, that it requires a rouſing and waking of the mind, it is a fault to deliver himſelf in a jejune and frigid ſtile, and without any manner of motion.

Therefore Divine Truths not being ſimply propos'd only to be known, but much more to be belov'd, reverenc'd and ador'd by Men, without doubt, the noble, elevated and figur'd manner of Elocution, obſerv'd by the Holy Fathers, is much more proportionable to the Subject, then a flat and meager Stile, like that of the Scholaſtics; ſince it not only teaches us the Truths we are to know, but alſo endeavours to raiſe in us, thoſe Sentiments of Love, Reverence and Affection, which the Fathers had for thoſe Truths, when they wrote, and which repreſenting to us the Image of that Holy diſpoſition, muſt of neceſſity contribute more to imprint the like in us. Whereas the Scholaſtic ſtile being plain, and contenting it ſelf with the *Ideas* of the Naked Truth, is nothing ſo effectual to produce in our Souls thoſe Motions of Reſpect and Love, which we ought to have for the Truths of Chriſtianity, which render it not only leſs profitable, but leſs delightful, ſince the ſoul it ſelf is more delighted in obſerving the motions of her affections, then in acquiring knowledg.

Laſtly, 'tis by means of this Obſervation, that we may reſolve that famous Queſtion among the Ancient Philoſophers, whether there be any words to be counted unchaſt? And by which we may alſo refute the Arguments of the *Stoicks*, who juſtify'd that we might make uſe indifferently of any words, though impudent and obſcene.

They were of opinion, ſaith *Cicero* in a Letter, which he wrote upon this Subject, that there were no words that were either naſtie or obſcene; for they ſay, that the obſcenity proceeds either from the things, or it is in the words. It does not proceed ſimply from the things, becauſe they may be expreſs'd in other words that are not eſteem'd ſo nauſeous; nor is it in the words, conſider'd as they are, becauſe it happens ofttimes, that one word ſignifies two things, and ſo in one ſignification it may be nauſeous, in another well enough approv'd.

But all this is no more then a vain piece of ſuttlety which grew from hence, that thoſe Philoſophers did not conſider thoſe acceſſory accidents, which the mind adds to the principal *Ideas* of things: for from thence it comes to paſs, that one and the ſame thing may be expreſs'd honeſtly by one ſound, and laſciviouſly by another, if one of the ſounds has an *Idea* which covers the obſcenity, and the other an *Idea* that lays it open.

Thus *Adultery*, *Intereſt*, *Male-Copulation* are no obſcene words, tho' they ſignifie moſt obſcene actions, becauſe they repreſent 'em cover'd with a vail of Abhorrency, which ſhews that we look upon 'em as crimes, ſo that thoſe words rather ſignifie the wickedneſs of the actions themſelves. Whereas there are certain words that expreſs thoſe Acts, without any Abhorrency, and which deſcribe 'em rather grateful and pleaſing withal, adding an *Idea* of Impudence and Laſciviouſneſs. And thoſe are the words which are ſaid to be bawdy and diſhoneſt.

There are alſo certain Circumlocutions, by which certain actions are chaſtly expreſt, which though lawful, yet participate ſomething of the Corruption of Nature; for ſuch Circumlocutions, not only plainly expreſs the things themſelves, but alſo the diſpoſition of him who ſpeaks of 'em in that manner, and which by his reſerv'dneſs teſtifie, that he mentions 'em with trouble and diſlike, and that it is his deſire they ſhould be conceal'd, as well from himſelf as from others: Whereas others uttering the ſame things more freely and at random, make it appear, that they take delight in thoſe kind of objects, which being a Laſcivious pleaſure, it is no wonder, if the words which imprint that *Idea*, ſhould be accounted contrary to modeſty.

For which reaſon it comes to paſs, that ſometimes the ſame word is eſteem'd modeſt at one time and immodeſt at another; which has conſtrain'd ſome of the *Hebrew* Rabbies to place certain *Hebrew* words in the Margin of the Bible, to be pronounc'd by thoſe that read it, inſtead of thoſe which the Scripture makes uſe of; which happen'd from hence, that when thoſe words were made uſe of, they were not at all immodeſt, becauſe they were read with ſome certain *Idea* that repreſented theſe words with reſervedneſs and modeſty. But afterwards that *Idea* being ſeparated, and cuſtom having added another of impudence and Wantonneſs, they became nauſeous and uncivil: And therefore the *Rabbies*, to prevent the mind from being amus'd with that evil *Idea*, were ſolicitous, that the People ſhould make uſe of others in reading the Bible, which no way alter'd the Text.

And therefore it was an ill Excuſe of an Author, whom the profeſſion of Religion oblig'd to an exact Modeſty, and who was deſerv'dly tax'd to have made uſe of an undecent word, to ſignifie an infamous place, to alledge, that the Fathers had not ſcrupl'd to make uſe of the word *Lupanar*, a *Brothel-houſe*, and that he often found in their writings, the words *Meretrix* and *Leno*, *whore* and *Pander*, and ſeveral others hardly to be en-

endur'd in our Language. For the liberty which the Fathers took to make uſe of thoſe words, ought to have convinc'd him, that they were not at that time accounted words of Ignominie; that is to ſay, that cuſtom had not added that *Idea* of obſcenity which render'd 'em Infamous; and therefore he drew an ill concluſion from thence, that it was for that reaſon, permitted him to make uſe of terms of Debauchery, ſo eſteem'd to be in our language; for that theſe words do not really ſignifie the ſame thing, which thoſe did of which the Fathers made uſe; ſeeing that beſides the Principal *Idea* in which they agree, they alſo exhibit the *Idea* of a debauch'd mind, and contain a mixture of Licentious Impudence.

Seeing then theſe *Acceſſory Ideas* are of ſo great Importance, and diſſolve the *Primarie Notions* into ſo many various *Ideas*, they would do well, who compile *Vocabularies* or *Dictionaries*, to mark out thoſe ſignifications, and make a diſtinction to the Readers, between words Contumelious and Civil, Tart, Chaſt and Immodeſt, or rather abſolutely to obliterate the Latter, which it would be much better to be ignorant of, then to underſtand.

The End of the Firſt Part.

LOGIC;
OR THE
ART
OF
THINKING.

Containing Conſiderations of Men about Proper Judgments.

Part II.

Chap. I.

What a Propoſition is? Of the four ſorts of Propoſitions.

AFter we apprehend the things themſelves, by the help of *Ideas* we compaer the *Ideas* together, and obſerve 'em as they agree or differ one among another, and in that manner joyn or ſeperate 'em, which

which is call'd to affirm or deny, and by a general name to *judge.*

This Judgment is otherwiſe call'd a Propoſition; and it is manifeſt that it ought to have two Terms, the one, of which any thing is affirm'd or deny'd, which is call'd the *Subject*, the other which is affirm'd and deny'd, which is call'd the *Attribute* or *Predicate.*

Nor does it ſuffice to have apprehended theſe two Terms, but they muſt be conjoyn'd or ſeparated in the Mind. And this operation of the mind, is noted in the Propoſition, by the word *Eſt*, *it is*; when it is alone, it is Affirmative; but when we deny, we add the Participle *non* or *not*: Thus when I ſay, *God is juſt*, *God* is the Subject of the Propoſition, *juſt* the Predicate. The Verbs *is*, denotes the action of the mind affirming, that is conjoyning the *Idea* of *God*, and the *Idea* of *juſt*, as agreeing together. But if I ſhould ſay, *God is not unjuſt*, the Verb *is*, with the Adverb joyn'd, denotes an action contrary to affirmation; by which I affirm thoſe *Ideas* do not agree together; for that there is ſomething in the *Idea* of *unjuſt*, which does not agree with that which is contain'd in the *Idea* of God.

But though it be neceſſary that every Propoſition ſhould conſiſt of theſe three words, yet it may conſiſt of two, and ſometimes only of one. For

For Men, for the more ſuccinct way of ſpeaking, have invented ſeveral words, which ſignifie both the affirmation, that is the Subſtantive, and the attribute which is affirm'd. Of this number are all thoſe words that are call'd Subſtantives, as *God exiſts*, that is, *is exiſtent*: *God loves Men*, that is, *He is a lover of Men*; but the Subſtantive, when it is ſingle, ceaſes to be purely Subſtantive; for that then the moſt general of the attributes, is joyn'd to it, which is *ens*, or *being*, and ſo *non ego ſum*, *I am not*, is as much as, *I am not a being, or any thing*.

In the ſame manner at other times, the Subject and the Affirmation is included in the ſame word, as in the firſt and ſecond Perſons among the Latins, as when I ſay, *ſum Chriſtianus*, *I am a Chriſtian*; for *ego* is the Subject of this Propoſition, included in the word *ſum*.

Hence it is apparent, that one word among the Latins conſtitutes a Propoſition, in firſt and ſecond Perſons of thoſe Verbs, which before contain'd the affirmation with the Predicate; ſo *veni*, *vidi*, *vici*, are three intire Propoſitions.

Hence it may alſo be concluded, that every Propoſition is either Negative or Affirmative; and this is that which is contain'd either in the affirmation or the denial.

But

But there is another difference of Propoſitions deduc'd from the Univerſality, Particularity or Singularity.

For the Terms, as is ſaid in the firſt part, are either ſingular, particular or Univerſal.

Univerſal Terms may be taken, either according to the full extent, the ſigns of Univerſality being either expreſs'd or underſtood. As are *all*, for an affirmation, for denial *none*, as *all Men*, *no Men*; or according to the indefinite part of the extent, with the addition of the word *ſome*, as *aliquis Homo*, *ſome Man*; or any other way, according to propriety of Speech.

Hence happens a certain variety, greatly to be obſerv'd in propoſitions; for when the ſubject of the propoſition is the Univerſal Term, taken in its full extent, it is call'd a univerſal propoſition, whether it be affirmative; as every impious Man is a fool; or negative, no wicked Man is bleſſed.

When the common Term is taken accoring to the indefinite part of its extent, as being reſtrain'd by the addition of the word *ſome*, it is call'd a particular propoſition, whether it be Affirmative, as *ſome cruel Men are Cowards*; or Negative, *ſome poor Men are not miſerable*.

But if the Subject of a Propoſition be ſingular, as when I ſay, *Lewis the* 13th. *hath taken Rochel*, it is call'd ſingular. But

But tho this Propoſition ſingular be different from the Univerſal in this, that the Subject of it is not common, yet has it a greater Affinity with it, then with the particular, becauſe the Subject, for the very reaſon that it is ſingular, is neceſſarily taken in its full extent, which is the Eſſential Propriety of an Univerſal Propoſition, and diſtinguiſhes it from the particular; for, that a propoſition may be univerſal it little imports, whether the extent of the Subject be great or ſmall, provided it comprehend all things: And this is the reaſon that ſingular Propoſitions ſupply the place of Univerſals in Argumentation; ſo that all Propoſitions may be reduc'd to four ſorts; which are mark'd by theſe four Vowels *A. E. I. O.* for the eaſe of the Memory.

A. An Univerſal Affirmative, as, *All vicious Men are ſlaves.*

E. An Univerſal Negative, as, *No vicious Man is happy.*

I. A Particular Affirmative, as *Some vicious Man is Rich.*

O. A Particular Negative, as, *Some vicious Man is not Rich.*

And that they may be the better retain'd in memory, they are comprehended in this in Diſtic.

Aſſerit

Aſſerit A, negat E, verum generaliter ambo:
Aſſerit I, negat O, ſed particulariter ambo.

They are wont alſo to call Quantity, the Univerſality, or Particularity of Propoſitions.

And Quality is call'd the affirmation or negation, which depend upon the word which is accounted the form of the Propoſition.

And ſo *A.* and *E.* agree according to quantity, but differ according to Quality, as do alſo *I.* and *O.*

But *A.* and *I.* agree according to quality, but differ according to quantity, as alſo do *E.* and *O.*

Propoſitions are alſo divided according to matter, into true or falſe; and it is clear, that there can be no Propoſition, which is neither true nor falſe; for that every Propoſition declaring the judgment which we make of things, it is true, when that judgment is conformable to truth, and falſe when it is not conformable.

But becauſe we often fail of ſufficient light, to diſcern truth from falſehood, beſides thoſe Propoſitions that ſeem to be true, and thoſe that ſeem to us to be falſe, there are ſome that ſeem to be true; but of which the truth is not ſo evident, but that we have ſome apprehenſion

prehenſion that they may be falſe; or elſe ſuch as ſeem to be falſe; but of the falſhood of which we are not fully aſſur'd. Theſe are call'd probable Propoſitions, of which the firſt are more probable, and the latter leſs probable.

CHAP. II.

Of the oppoſition of Propoſitions, having the ſame Subject and Predicate.

WE have already declar'd, there are four ſorts of propoſitions, *A. E. I. O.* Now it may be demanded wherein they agree or differ, when ſeveral ſorts of Propoſitions are deduc'd from the ſame Subject, and the ſame Attribute, which is call'd oppoſition.

It is eaſily ſeen, that there can be but three ſorts of oppoſitions; tho one of the three is ſubdivided into two others.

For if they be oppos'd in quantity and quality both together, *A. O.* and *E. I.* they are call'd contradictories, as *every Man is an Animal*; *Some Man is not an Animal*: *No Man is free from ſin*: *Some Man is free from ſin.*

If

If they differ in Quantity only, and agree in Quality, as *A. I.* and *E. O.* they are call'd *Subalterns.* As every Man is a Creature, ſome Man is a Creature: No Man is free from ſin; ſome Man is not free from ſin.

But if they differ in Quality, and agree in Quantity, then they are call'd *contraries* or *ſubcontraries*: *Contraries*, when they are *Univerſal*; as *Every Man is a Creature*, *No Man is a Creature.*

Subcontraries, when they are particular: *Some Man is a Creature*; *Some Man is not a Creature.*

Now if theſe Propoſitions are lookt upon as they are true or falſe; it is eaſie to judg,

That contradictories are never together either true or falſe; but if one be true, the other is falſe; and if one be falſe, the other is true; For if it be true that every Man is a Creature, it cannot be true that ſome Man is no Creature; on the other ſide, if it be true that ſome Man is no Creature, it cannot be true that every Man is a Creature.

This is ſo clear that a farther explanation would but render it more obſcure.

2. Contraries can never be probable, but they may be both falſe. They cannot be true, becauſe then contradictories would be true; for if it be true that every Man is an Animal, it is falſe that ſome Man is not an Animal, which is the contradictory, and by conſequence,

quence, much more falſe, that no Man is an Animal; which is its contrary.

But the falſity of the one does not infer the falſity of the other; for it may be falſe, that all Men are juſt, and yet it may not be true, that no Man is juſt; ſince there may be juſt men, though all men are not ſo.

3. Subcontraries, by a Rule altogether oppoſite to that of contraries may be probable, as in theſe two Propoſitions. *Some Man is juſt*; *ſome Man is not juſt*; for juſtice may agree with one part of Men; and not with the other. And therefore affirmation and negation never happen in the ſame Subject; for *ſome Man* is taken for one part of Men, in one part of the Propoſition, and for another part in the other. But they cannot be both falſe; for if it were falſe, that *ſome Man is juſt*, it would be true, that *no Man is juſt*, which is the Contradictory, and much more true, that *ſome Man is not juſt*, which is the *ſubcontrary*.

4. As for the oppoſition of *Subalterns*, it is no true oppoſition: becauſe the particular is the conſequence of the Univerſal; for if *all Men are Creatures*, *ſome Man is a Creature*: If *no Man be an Ape*, *ſome Man is not an Ape*: Therefore the truth of Univerſality infers that of Particulars; but the truth of Particulars does not infer that of Univerſals; for

for it does not follow, becauſe it is true, that *ſome Man is juſt*, that it ſhould be true, *that all Men are juſt:* On the other ſide the falſhood of Particulars infers the falſhood of Univerſals; for if it be falſe that ſome Man is free from ſin, it is more falſe that all Men are free from ſin: But the falſhood of Univerſals does not infer the falſhood of Particulars; For though it be falſe, that all Men are juſt, yet it does not follow, but that ſome Man may be juſt: Whence it follows, that many times *Subaltern* Propoſitions may both happen to be true, and ſometimes both to be falſe.

I forbear to ſpeak of the Reduction of oppoſite propoſitions to the ſame ſence, as be altogether unprofitable, and for that the Rules are only true in the Latin.

CHAP. III.

Of Propoſitions ſimple and compos'd; That there are ſome which ſeem to be ſimple, but are not, and which may be call'd complex. Of Complex Propoſitions both as to the Subject and Attribute.

WE have ſaid, that every Propoſition ought to have at leaſt, one

Subject and one Attribute; but it does not follow from thence, that it ought not to have no more then one Subject and one Predicate. Such then as have but one Subject and one Attribute are call'd ſimple, and they that have more then one Subject and one Predicate are call'd Compos'd. As when I ſay Good and Evil, Life and Death, Poverty and Riches come from the Lord. The predicate, *Come from the Lord* is affirm'd not only of one Subject, but of many, that is of *Good and Evil*, *&c.*

But before we explain the compos'd Propoſitions, we muſt obſerve that there are ſome which ſeem to be compos'd that are not ſo, but Simple. For the ſingleneſs of a Propoſition is taken for the Unity of the Subject and the Attribute. Now there are ſeveral Propoſitions that have properly but one Predicate and one Attribute; but of which either the Subject or the Attribute is a term complex, which includes other Propoſitions, that may be call'd *Incident*, which make no part of the Subject or Predicate, being join'd by the Pronoun Relative, *who or which*, whoſe propriety it is to join together ſeveral Propoſitions, to the end they may all encorporate into one.

Thus when Chriſt ſays, *He that does the will of my Father who is in Heaven, ſhall enter into the Kingdom of Heaven.* The

The Subject of this Propoſition contains two Propoſitions, as containing two Verbs; but in regard they are join'd by the Relative *who*, they only make a part of the Subject. Whereas when I ſay, good and evil proceeds from the Lord, there are properly two Subjects, becauſe I affirm equally both of the one and the other, that they come from God.

The reaſon is this, for that the Propoſitions being join'd to others by the Relative, *who*, are either Propoſitions but imperfectly, as ſhall be ſaid hereafter; or elſe are not conſider'd as Propoſitions then made, but as Propoſitions that have been made before, which are at that time only conceiv'd like ſingle *Ideas*. Whence it happens to be the ſame thing, whether we pronounce theſe Propoſitions by Noun-Adjectives, or by Participles without Verbs, and without the Relative, *who*; or with Verbs and with the Relative. For it is the ſame thing to ſay, *The inviſible God has created the viſible world*; or God who is viſible, has *Created the World which is viſible*. Alexander *the moſt valiant of Princes vanquiſh'd* Darius; *or* Alexander *who was the moſt valiant of Princes, vanquiſh'd* Darius. For as well in the one as the other, my principal aim is, not to affirm that God is Inviſible, or that *Alexander* was the moſt generous of Princes; but ſuppoſing both the one and the other as af-

firm'd before, I affirm of God, conceiv'd as Inviſible, that he Created the viſible World; and of *Alexander* conceiv'd to be the moſt generous of Princes, that He vanquiſh'd *Darius*.

But if I ſhould ſay, *Alexander was the moſt valiant of Princes, and the Vanquiſher of* Darius, 'tis evident that I ſhould no leſs affirm of *Alexander*, both that was he the moſt valiant of Princes, and that he was the Vanquiſher of *Darius*; and therefore there is good reaſon that the latter ſort of Propoſitions ſhould be call'd compos'd Propoſitions; whereas we may call the other Propoſitions complex'd.

We are alſo to obſerve, that complex'd Propoſitions may be of two ſorts. For Complexity, if I may ſo call it, may light either upon the matter of the Propoſition, that is to ſay, upon the Subject, or the Predicate, or both; or elſe upon the *form* only.

1. Complexity falls upon the Subject, when the Subject is a Term Complex'd, as in this Propoſition. *He is a King who fears nothing.*

Beatus ille qui procul negotiis
Ut priſca gens Mortalium,
Paterna Rura bobus exercet Suis
Solutus omni fœnore.

For

For the Verb *Eſt* is underſtood in the laſt Propoſition; *Beatus* being the Predicate, and all the reſt the Subject.

2. Complexity falls upon the Attribute, when the Attribute is a Term complex'd, as *Piety is a Vertue that renders a Man happy in the greateſt Adverſities.*

Sum Deus Æneas, fama ſuper æthera notus.

But here we muſt obſerve that all Propoſitions compos'd of Verbs active, and their caſes govern'd, may be call'd Complex, as containing in ſome manner two Propoſitions. For example, if I ſay, *Brutus* kill'd a Tyrant, this is as much as to ſay, that *Brutus* kill'd ſome-body, and that he whom he kill'd was a Tyrant; which is very remarkable to be obſerv'd; for when theſe Propoſitions are urg'd in Arguments, ſometimes there is but one part prov'd, the other being ſuppos'd, by which we are frequently oblig'd to reduce thoſe Arguments into the moſt natural Form, and to change the Active into the Paſſive, to the end, that the part which is prov'd may be directly expreſs'd; as we ſhall ſhew when we come to diſcourſe of Arguments compos'd of complex Propoſitions.

3. Sometimes Complexity falls upon both Subject and Predicate, both the one and the

other being a complex Term, as in this Propoſition. *The great ones who oppreſs the Poor, ſhall be puniſh'd by God, who is the Protector of the Poor.*

Ille ego, qui quondam gracili modulatus avena
Carmen, & egreſſus ſylvis, vicina coegi,
Ut quamvis avido parerent arva Colono:
(Martis
Gratum opus Agricolis; ut nunc horrentia
Arma, virumque cano, Trojæ qui Primus aboris
Italiam, fato profugus, lavina que venit
Littora.

The firſt three Verſes, and the half of the fourth, compoſe the Subject of this Propoſition, and the reſt makes the Predicate, and the affirmation is included in the word *Cano.*

Theſe are the three ways that Propoſitions may be complex'd as to their Matter, that is to ſay, both as to the Subject and the Predicate.

CHAP.

CHAP. IV.

Of the Nature of Incident Propoſitions, that make a part of Propoſitions Complex'd.

BUT before we ſpeak of Propoſitions, whoſe Complexity may fall upon the Form, that is to ſay, upon the Affirmation or Negation, there are ſeveral important remarks to be made upon the nature of *Incident* Propoſitions, which make one part of the Subject or Attribute of thoſe that are complex'd according to matter.

1. It has been already ſaid, that *Incident* Propoſitions are thoſe whoſe Subject is the Pronoun, *Who*; as *Men who are created to know and love God*; or *Men who are Pious*, where the Term *Men* being taken away, the reſt is an *Incident* Propoſition.

But here we muſt call to mind what has been ſaid in the ſixth Chapter of the firſt Part. That the additions of Terms complex'd are of two ſorts, the one may be call'd ſimple Explications, when the addition alters nothing in the *Idea* of the Term, in regard that what is added, agrees generally with the term in its full extent: as *Men who are created to know and love God.*

The other may be call'd Determinations; for that, what is added to the term not agreeing with it in its full extent, reſtrains and determines the Signification, as in the ſecond Example Men who are Pious. From whence it follows that there is a Pronoun, *Who*, *Explicative*, and a Pronoun *(Who) Determinative.*

Now when the Pronoun *(who)* is *Explicative*, the Attribute of the *Incident* Propoſition is affirm'd of the Subject, to which the Pronoun *(who)* refers; tho' it be but incidently in reſpect of the total Propoſition; ſo that the Subject it ſelf may be ſubſtituted to the Pronoun *(who)* as in the firſt Example, *Men who were Created to know and love God.* For we might ſay, *Men were created to know and love God.*

But when the *(who)* is Determinative, the Predicate of the Incident Propoſition, is not properly affirm'd of the Subject to which the *(who)* refers. For if in this Propoſition, *Men who are Pious are Charitable*, we ſhould put the word *Men* in the place of *(who)* by ſaying, *Men are Pious*, the Propoſition would be falſe, for this would be to affirm the word *(Pious)* of Men, as Men. But in the other Propoſition, *Men who are Pious are Charitable*, we affirm neither of Men in general, nor of any Man in particular, that they are Pious; but

but the Underſtanding joining together the *Idea* of (*Pious*) with that of *Men*, and making an entire *Idea*, judges, that the attribute of *Charitable* agrees with the entire *Idea*. And therefore the entire Judgment which is expreſs'd in the Incident Propoſition is only that, by which our Underſtanding Judges that the *Idea* of *Pious*, is not incompatible with that of *Men*, and ſo they may be conſider'd as join'd together; and afterwards we may examine how they agree together, being thus united.

Many times there are *Terms* that are doubly and trebly Complex'd, being compos'd of ſeveral parts, of which every one is ſeparately complex'd; and ſo we may meet with ſeveral *Incident* Propoſitions, and of ſeveral ſorts; the Pronoun of the one being *Explicative*, and the other *Determinative*, as in this Example. *The Doctrine that places Soveraign Happineſs in the pleaſures of the Body, which was taught by* Epicure, *is unworthy a Philoſopher.* The attribute of this Propoſition is *Unworthy a Philoſophyer* and all the reſt is the Subject: and ſo the Propoſition is a Complex Term that includes two incident Propoſitions. The firſt, *That places Soveraign happineſs in the pleaſures of the Body*, where the Pronoun is determinative; for it determines (Doctrine) in general to be that which affirms Soveraign Felicity

Felicity to conſiſt in the pleaſures of the Body; whence it would be an abſurdity to ſubſtitute the word *Doctrine* to the Pronoun, by ſaying *Doctrine places Soveraign Happineſs in bodily Pleaſure.*

2. The ſecond incident Propoſition is, which was taught by *Epicurus*, and the Subject whereto the Pronoun [*which*] refers, is the whole complex Term [*The Doctrine which places Soveraign happinneſs in bodily Pleaſure*] which denotes a ſingular and individual Doctrine, capable of divers accidents; as to be maintained by ſeveral perſons: tho' in its ſelf it be determin'd to be taken always after the ſame manner, at leaſt in this preciſe caſe, as it is extended. And therefore it is, that the Relative of the ſecond *Incident* Propoſition, [which was taught by *Epicurus*] is not determinative but only Explicative; ſo that the Subject to which the Pronoun refers may be ſubſtituted in the place of the pronoun, by ſaying, *The Doctrine which places Soveraign happineſs in bodily Pleaſure, was taught by* Epicurus.

3. The laſt remark is, that to judg of the nature of theſe Propoſitions, and to know whether it be determinative or explicative, it behoves us to mind rather the Sence and Intention of him that ſpeaks, then the Expreſſion alone.

For

For there are many times complex'd Terms, that ſeem uncomplex'd; or leſs complex'd then indeed they are; for that one part of what they encloſe in the mind of him that diſcourſes, is altogether underſtood and not expreſs'd, as has been ſaid in the ſixth Chapter of the firſt part, where we have ſhown that there is nothing more uſual in diſcourſe then to ſignify ſingulars by general words, for that the Circumſtances of diſcourſe make it appear that there is a ſingular and diſtinct *Idea*, join'd to that common *Idea* which anſwers to the word, that determines it to ſignifie only one thing.

I ſaid that this was generally known by the Circumſtances, as in *French*, the word *Roy* or *King* ſignifies *Lewis* XIV.

But there is yet a Rule that may ſerve us to judg, when a common Term retains a general *Idea*, and when it is determin'd by a diſtinct and particular *Idea*, though not expreſs'd.

When it is a manifeſt Abſurdity to apply a Predicate to a Subject, retaining a general *Idea*, we muſt believe that he who made that Propoſition, has depriv'd that Subject of its general *Idea*. Thus if I hear a Man ſay, *the King has commanded me ſuch a thing*, I am aſſur'd that he has not left the word *King* in its general *Idea*, for a King in general gives no particular Command. If

If a Man ſhould ſay to me, *The Bruſſells Gazet of the 24th of* January 1662. *is falſe as to what was tranſacted at Paris*, I ſhould be aſſur'd, that there was ſomething more in the mind of him that ſpoke, then what was expreſſ'd in thoſe Terms. For thoſe words are not ſufficient to make me judge whether the Gazet be true or falſe: So that the Relator muſt have in his thoughts ſome piece of News Diſtinct, and particular which he judges contrary to the Truth; as if the Gazet had related, *that the King had made a hundred Knights of the Order of the Garter.*

Alſo in ſuch judgments as are made of the Opinions of Philoſophers, when we ſay, that the Doctrine of ſuch a Philoſopher is falſe, without expreſſing diſtinctly what that doctrine; is as (the Doctrine of *Lucretius*, touching the Nature of our Soul is falſe) it neceſſarily follows, that in ſuch ſorts of Judgments they who make 'em, do mean a diſtinct and particular Opinion under the general words (Doctrine of ſuch a Philoſopher). And ſo ſuch ſorts of Propoſitions diſſolve into others like to theſe. *Such an opinion that was maintain'd by ſuch an Author is falſe. The opinion that our Soul is Compos'd of Atoms, which was taught by* Lucretius *is falſe.* So that theſe kinds of Judgments always encloſe two Affirmations, when they are not diſtinctly expreſs'd

preſs'd. The one Primary which relates to the Truth it ſelf; which is, that it is a great error to believe that our Soul is compos'd of Atoms; the other *Incident*, which refers only to the Hiſtorical part; that this error was generally taught by *Lucretius*.

CHAP. V.

Of the falſhood that occurs in Complex Terms and Incident Propoſitions.

WHAT we have already ſaid may ſerve in anſwer to one celebrated Queſtion, how to know whether there be no falſhood but in Propoſitions, and whether there be none in *Ideas* and ſimple Terms.

I ſpeak of falſhood, rather then of Truth; for there is a truth in things that is certain, which is their Conformity to the Will of God, whether Men think of 'em or not; but there can be no falſhood of things, but as they relate to the underſtanding of Man, or any other underſtanding ſubject to errors, which judges falſly that a thing is that which it is not.

The

The Queſtion is, whether this falſhood is only to be met in Propoſitions and Judgments. The uſual anſwer is, no; which is true in one ſence; however that hinders not, but that there may be falſhood, not in ſingle *Ideas*, but in complex Terms. For it is ſufficient, that ſomething may be judg'd or affirm'd in them, either expreſly or virtually.

Which will be more plain, if we conſider particularly two ſorts of complex Terms; the one, of which the Pronoun is explicative, the other of which it is determinative.

In the firſt ſort of Complex Terms, we are not to wonder if we find any falſhood. For the attribute of the Incident Propoſition, is affirm'd by the Subject to which the Pronoun relates. As in *Alexander who is the Son of Philip*, I affirm, though incidently, the Son of *Philip* of *Alexander*; and by conſequence there is a falſhood in it, if it be not ſo.

But here we are to make two or three remarks of moment.

1. That the falſity of an *Incident Propoſition* does not blemiſh the truth of the *Principal Propoſition*. For example, *Alexander who was the Son of Philip, overcame the* Perſians: This propoſition ought to paſs for true, though *Alexander* were not the Son of *Philip*; becauſe the affirmation of the principal Propoſition, falls only upon *Alexander*, and what is incidently added, does

does not hinder, but that *Alexander* might vanquiſh the *Perſians*.

Nevertheleſs, if the attribute of the principal propoſition, had relation to the incident propoſition, as if I ſhould ſay, *Alexander the Son of* Philip *was* Amintas's *Grandchild*: Then would it only be, that the falſhood of the incident propoſition, would render the principal propoſition falſe.

2. Titles that are given to certain Dignities may be given to all that poſſeſs that Dignity; though what is ſignify'd by the Title, do not at all agree with 'em. Thus becauſe the Titles of *Holy*, and *Thrice Holy*, was formerly given to all Biſhops, we find, that the Catholic Biſhops at the conference of *Carthage*, did not ſcruple to give that Title to the *Donatiſt* Biſhops *(the moſt Holy* Petelian *ſaid it)* though they knew well that there could be no true Holineſs in a Heretic Biſhop. We find alſo, that St. *Paul* gives the title of *beſt* and *moſt excellent* to *Feſtus* Governour of *Judea*, becauſe it was the Title uſually given to the Chief Governours,

3. But it is not ſo, when a Perſon is the Author of a Title which he gives to another, and which he gives according to his own, and not the opinion of others, or according to popular error; for then we may impute to himſelf the falſhood of ſuch propoſition. Thus when

when a Man ſays, Ariſtotle *who is the Prince of Philoſophers*, or ſimply, *The Prince of Philoſophers*, believ'd that the Original of the Nerves was in the Heart; we have no reaſon to tell him this is falſe, becauſe *Ariſtotle* was not the beſt of Philoſophers; for it is enough that he has follow'd in this the common opinion, though it were falſe. But if a Man ſhould ſay, That Gaſſendus, *who is the moſt Learned of Philoſophers, believ'd that there was a* Vacuum *in nature*; we may with reaſon diſpute the Title which he would give *Gaſſendus*, and make him reſponſible for the falſhood, couch'd in that incident propoſition. A Man may be alſo accus'd of Falſhood, who gives to the ſame perſon a Title which is not ſuitable to him, yet not be blam'd for giving him another Title, which is leſs true and leſs agreeable. For example, *Pope* John *the XII. was neither Holy, nor Chaſt, nor Pious*: As *Baronius* acknowledges; for tho' they who call'd him *moſt Holy* could not be tax'd of falſhood, yet they who call'd him moſt Chaſt and Pious, were very great Liars, though they did it by Incident Propoſitions; as if they had ſaid, *John* the XII. *the moſt Chaſt Pope, decree'd ſuch a thing*.

This is what I had to ſay concerning incident Propoſitions, where the Pronouns (Who or Which) are explicative; as to thoſe other

other where the Pronouns are determinative, as *Men who are Pious*, *Kings who love their Subjects*, certain it is, they are not liable to falſhood, becauſe the predicate of the Incident Propoſition is not affirm'd of the *Subject* to which the Pronoun relates. For example, ſhould it be ſaid, *That ſuch Judges as do nothing for favour or reward, are worthy of applauſe*, it is not therefore affirm'd, that there are any ſuch Judges, who are ſo upright. Nevertheleſs I believe there is always in theſe Propoſitions a tacit and virtual Affirmation, not of the actual Congruity of the Predicate with the Subject to which the Pronoun relates; but of the poſſible Congruity. And if there be any deceit in this, we may rationally conclude there is a falſhood in the Incident Propoſitions. As if it had been ſaid, *Souls that are ſquare are more ſolid than thoſe which are round*; here the *Idea's* of Square and Round being Incompatible with the *Idea* of a Soul, taken for the principle of Thought, I judg that thoſe Incident Propoſitions ought to paſs for falſe.

And hence it may be ſaid, that the greateſt part of our errors proceed. For having the *Idea* of a thing we frequently join to it another incompatible *Idea*, and by that means attribute to the ſame *Idea*, that which is not ſuitable to it.

Thus finding in our ſelves two *Ideas*, one

of the thinking Subſtance, another of the extended Subſtance, it frequently happens, that when we conſider our Soul, which is the thinking Subſtance, we inſenſibly intermix ſomething of the *Idea* of the extended Subſtance, as when we imagine that the Soul fills up a ſpace like the Body, and that it could not be at all if it were no where, which are not Properties that belong to a Body. Whence aroſe that Impious error of the Mortality of the Soul. We may read an excellent diſcourſe of St. *Auſtin* upon this Subject, in his tenth Book of the Trinity; where he ſhews that there is nothing ſo eaſy as to know the nature of our Soul. But that which confounds men is this, that being deſirous to know it, they are not ſatisfied with what they know, without any great trouble; that is to ſay, that it is a Subſtance that thinks, deſires, doubts, and knows; but they add to what it is, what it is not, fancying the Soul under ſome of thoſe Phantoſms, under which they were wont to conceive Corporeal things.

On the other ſide, when we conſider Bodies, we have much adoe to abſtain from intermixing ſomething of the *Idea* of the Subſtance that thinks, hence we affirm that heavy things tend to the Center; of Plants, that they ſeek for proper nouriſhment; of *Criſis*'s in

in Diſeaſes, that it is nature that goes about to diſcharge it ſelf of what is baneful, and a thouſand other Whimſeys. More eſpecially in our Bodies, that Nature has an Inclination to do this or that; when we are aſſur'd that we have no ſuch deſire, nor ever had any ſuch thought, and that it is ridiculous to imagine, that there is within us any other thing then our ſelves, that knows what is good or hurtful for us, that deſires the one, and eſchews the other.

I believe moreover that we are to attribute to theſe incompatible *Ideas*, all thoſe murmurings of Men againſt the Deities; for it would be impoſſible to murmur againſt God, if we conceiv'd him aright: as he is, altogether Wiſe, Omnipotent, and all Goodneſs. But the Ungodly conſidering him as Omnipotent, and the Sovereign Lord of all the World, attribute to him all the misfortunes that befall 'em, wherein they are not deceiv'd; but becauſe at the ſame time they apprehend him to be cruel and unjuſt, which is incompatible with his goodneſs, they impiouſly inveigh againſt him as the Author of the miſeries which they ſuffer.

CHAP. VI.

Of Complex Propoſitions, according to Affirmation and Negation: of one ſort of thoſe kinds of Propoſitions which the Philoſophers call Modal.

BEſides thoſe Propoſitions where the Subject or Attribute is a Term Complex, there are alſo others that are Complex; becauſe there are Terms or incident Propoſitions, which only regard the form of the Propoſition, that is, the Affirmation or Negation which is expreſs'd by the Verb; as if I ſhould ſay, *I affirm that the Earth is round.* Here *I affirm*, is only an incident Propoſition, which ought to make a part of ſomething in the principal Propoſition. Nevertheleſs it is viſible that it makes no part either of the Subject or of the Attribute: for they ſuffer no alteration, as being underſtood as entirely as if I ſhould ſimply aver, *the Earth is round.* So that the incident Propoſition falls only upon the Affirmation which is expreſs'd in two manners; the one moſt commonly by the Verb [*Eſt*] *the Earth is round*; and the other expreſly by the Verb I maintain.

So

So when they ſay, I deny it, it is true; it is not true. Or when they add in one Propoſition that which ſupports the Truth; as when I ſay, *The Reaſons of Aſtronomy convince us, that the Sun is much bigger then the Earth.* For the firſt part is only a ſupport of the Argument.

Nevertheleſs it is of great Moment to know that there are a ſort of theſe Propoſitions which are Ambiguous, and which may be taken differently, according to the deſign of the Propounder. As when I ſay, *all Philoſophers aſſure us*, that heavy things fall of *themſelves*. Now if it be my Intention to ſhew that heavy things fall down of themſelves, the firſt part of this Propoſition will be only Incident, and will only ſupport the affirmation of the latter part. But if I intend to report this opinion of the Philoſophers, without approving it, then the firſt part will be the principal Propoſition, and the laſt will only be a part of the Attribute. For ſo I affirm not only that heavy things fall of themſelves, but that all Philoſophers aſſert it. And it is eaſily ſeen that theſe two ways of changing the propoſition, alter it in manner, that it becomes two different Propoſitions, and different in Sence. But it is eaſy to judg by the Conſequence, in which of the two Senſes the Propoſitions are to be taken. For

Example, the Propoſition being laid down, I ſhould add; *But Stones are heavy, therefore they fall down of themſelves*, would be plain that I had taken the firſt Sence, and that the firſt part was only *Incident*. On the other ſide, if I ſhould conclude thus, *Now this is an Error, and by conſequence an Error may be taught by the Philoſophers*, then it would be manifeſt that I had taken the Propoſition in the ſecond Sence; that is, that the firſt part will be the principal Propoſition, and the ſecond part only the predicate.

As for Complex Propoſitions, where the Complexity falls upon the verb, and not upon the Subject, nor the Predicate, Philoſophers have particularly taken notice of thoſe that are called *Modal*; becauſe the Affirmation or Negation is modified by one of the four Modes, *Poſſible*, *Contingent*, *Impoſſible*, *Neceſſary*.

And becauſe every Mode may be affirm'd or denied, as *it is poſſible*, *it is not poſſible*, and in both manners be join'd with the Affirmative or Negative Propoſition, every Mode may have four Propoſitions, and the four together ſixteen, which are denoted by theſe four words, *PURPUREA*, *ILIACE*, *AMABIMUS*, *EDENTULI*; of which this is the Miſtery. Every Syllable marks one of the four Modes.

1. Poſſible.

1. Poſſible.
2. Contingent.
3. Impoſſible.
4. Neceſſary.

And the Vowels in every Syllable, which are A. E. I. or U. denotes whether the Mode be affirm'd or denied, and whether the Propoſition which they call the *Thing ſaid*, ought to be denied or affirm'd in this manner.

A. The Affirmation of the Mode, and the Affirmation of the Propoſition.

E. The Affirmation of the Mode and denial of the Propoſition.

I. The denial of the Mode, and Affirmation of the Propoſition.

U. The denial of the Mode, and denial of the Negation.

It would be loſt time to produce Examples, which are eaſily found out. We are only to obſerve that *PURPUREA* anſwers to the A, of Propoſitions Incomplex. *ILIACE* to the E. *AMABIMUS* to the I. *EDENTULI* to the U. So that if we intend the Example ſhould be true, having choſen a Subject, we muſt take for *Purpurea* an Attribute that may be univerſally affirm'd. For *Iliace*, one that may be univerſally denied. For *Amabimus*, one that may be affirm'd particularly, and for *Edentuli*, one that may be denied particularly.

But whatever Predicate we take, this is always certain, that all the four Propoſitions of the ſame word have always the ſame Sence, ſo that one being true, all the reſt are true.

CHAP. VII.

Of ſeveral ſorts of Compos'd Propoſitions.

WE have already ſaid, that compos'd Propoſitions have either a double Subject, or a double Predicate. Now of theſe there are two ſorts. One where the Compoſition is expreſly mark'd; the reſt where it lies more conceal'd, and which the *Logicians* for that reaſon call *Exponable*; which require Expoſition or Explanation.

Thoſe of the firſt ſort may be reduc'd to ſix Kinds, Copulatives, Disjunctives, Conditinal, Cauſal, Relative and Diſcretive.

COPULATIVES.

We call Copulatives thoſe that include ſeveral Subjects or ſeveral Attributes join'd together by an Affirmative or Negative Conjunction; that is to ſay, (*And*) or (*neither*) For (*Neither*)

(*Neither*) does the ſame thing as (*and*) in theſe ſorts of Propoſitions; for that (*neither*) ſignifies [*and*] with a Negative which falls upon the Verb and not upon the Union of the two words which it joins; as if I ſhould ſay, *that Knowledg and Riches do not make a Man happy.* Here I unite Knowledg and Riches, affirming of both that they do not make a Man happy, in the ſame manner as if I ſhould have ſaid, *that Knowledg and Riches render a Man vain-glorious.*

Theſe Propoſitions may be diſtinguiſhed into three ſorts.

1. When they have more Subjects.

Life and Death are in the power of the Tongue.

2. When they have ſeveral Predicates.

Auream quiſquis mediocritatem
Diliget, tutus caret obſoleti,
Sordibus Tecti, caret invidenda.
Regibus Aula.

A well Compos'd Mind hopes for good Fortune in bad, and fears not bad fortune in Proſperity.

3. When they have ſeveral Subjects and ſeveral Attributes.

Nor

(Gold,
Nor Houſe, nor Land, not heaps of Braſs or
From the Sick Lord a Fever can withhold,
Nor anxious cares repel.——.

The truth of theſe Propoſitions depends upon the truth of both the two parts. Thus if I ſay that Faith and a good Life are neceſſary to Salvation, this is true, becauſe both the one and the other is neceſſary. But ſhould I have ſaid, a good Life and Riches are neceſſary for Salvation, this is a falſe Propoſition, becauſe Riches are not neceſſary for Salvation.

Propoſitions that are conſider'd as Negatives, and contradictory in reſpect of Copulatives and all others compos'd, are not all ſuch, where Negations occur, but only ſuch where the Negation falls upon the Conjunction, which happens ſeveral ways, as by putting the [*Not*] at the head of the Propoſition. Thou doſt not love, and forſake thy Friend.

For thus it is, that a Propoſition is made Contradictory to the Copulative, by expreſsly denying the Conjunction; as when we ſay that it cannot be, *that a thing ſhould be this and that at the ſame time.*

That

That a Man cannot be wiſe and in love at the ſame time.

Amare & ſapere vix Deo conceditur.

That Love and Majeſty do not accord well together.

Non bene conveniunt, nec in una ſede Morantur Majeſtas & Amor.------

Of Disjunctives.

Disjunctives are of great uſe; and theſe are they, wherein the disjunctive conjunction [*or*] is found.

Amity either finds friends equal, or makes 'em equal.

A Woman either loves or hates; there is no Medium.

Aut amat, aut odit mulier, nihil eſt tertium.

He that altogether lives in Solitude, is either a Beaſt or an Angel ſays *Ariſtotle.*

Men

Men are guided either by intereſt or fear,
Either the Sun moves about the Earth, or the Earth about the Sun.
Every action proceeds from good or bad judgment.

The truth of theſe Propoſitions depends upon the neceſſary Oppoſition of the parts, which admits no Medium. But as they ought to admit no Medium, that they may be neceſſarily true; ſo that they may be only morally true, it ſuffices that they do not uſually admit a Medium. And therefore it is abſolutely true that an action done with Judgment is either good or bad, the *Theologians* making it manifeſt that there is nothing in particular that is untrue. But when they ſay, that Men never act but by intereſt or fear; this is not abſolutely true, ſince there are ſome who are lead neither by the one or the other of theſe Paſſions, but meerly upon the conſideration of their Duty: So that the main truth of this Propoſition lies in this, that the greateſt part of Men are govern'd by theſe two Affections.

Propoſitions contradictory to disjunctives are thoſe where the Truth of the Disjunction is denied. Which among the *Latins* (as in all other compoſed Propoſitions) by putting the Negative at the Head of the Propoſition. *Non omnis actio eſt bona vel Mala*: and

and in *Engliſh*. It is not true, that every action is good or bad.

Conditional.

Conditionals are ſuch as have two parts bound by the condition (*if*) of which the firſt where the condition lies, is call'd the Antecedent; and the other the Conſequent. *If the Soul be Spiritual*, is the Antecedent, *it is immortal*, is the Conſequent.

This Conſequence is ſometimes mediate; ſometimes immediate: It is only mediate, when there is nothing in the terms that binds both parts together, as when I ſay,

If the Earth ſtand ſtill, the Sun moves:
If God be juſt, the wicked ſhall be puniſh'd.

The conſequences are very good, but they are not immediate; for that the parts not having any common term, are bound together by ſomething which is not expreſs'd but reſerv'd in the mind; that the Earth and the Sun being perpetually in different Situations; neceſſarily it follows, that the one is moveable, and the other immoveable.

When the conſequence is immediate, it is uſually requiſite,

1. Either that both parts have the ſame Subject. *If*

If Death be a paſſage to a more happy life, it is deſirable.

If you have fail'd to feed the Poor, you have kill'd the Poor.

2. Or that they have the ſame Predicate.

If whatever God inflicts upon us for Tryals ſake, ought to be dear to us.

Sickneſs ought to be dear to us.

3. Or that the Attribute of the firſt, be the Subject of the ſecond.

If Patience be a Vertue,

Some Vertues are irkſome.

4. Or laſtly, that the Subject of the firſt part be the Attribute of the ſecond; which cannot be but when the ſecond part is Negative.

If all true Chriſtians live according to the Goſpel,

There are no true Chriſtians.

Here the truth of the Propoſition is not regarded, but the truth of the Conſequence. For though the one and the other part be falſe, nevertheleſs if the conſequence of the one, in reſpect of the other, be good, the Propoſition, as far as it is conditional, is true.

As,

If the will of the Creature be able to hinder the accompliſhing of Gods will,

God is not Omnipotent.

Negative Contradictories are oppos'd to Con-

Conditionals, when the condition is deny'd; which among the *Latins* is done by prefixing the Negative——

——*Non ſi miſerum fortuna Simonem*
Tinxit, vanum etiam mendacemq; improbaſi xtin

But in Engliſh they are expreſs'd by (altho) and a Negative,

If you eat of the forbidden Fruit, you ſhall die,
Though you eat of the forbidden Fruit, you ſhall not die.

Or elſe by, *It is not True;*

It is not true, that you ſhall die if you eat of the forbidden Fruit.

Of *Cauſals.*

Cauſals are thoſe that contain two Propoſitions joyn'd together by Conjunctions of the cauſe (*becauſe*) or (*to the end that*)

Woe to the Rich, becauſe they have their felicity in this world.

The wicked are advanc'd, to the end, that falling from on high, their fall may be the greater.

They can, becauſe they think they can.

Such a Prince was unfortunate, becauſe he was not born under ſuch a Planet.

Under theſe ſorts of Propoſitions may be alſo reduc'd thoſe which are call'd *Reduplicatives.* Men

Men, as Men, are rational,

Kings, as Kings, are ſubject to none but God.

That theſe Propoſitions be true, it is requir'd, that one of the parts ſhould be the cauſe of the other; whence it comes to paſs that both are true; for that which is falſe is no cauſe, nor has it any cauſe why it ſhould be. Yet both parts may be true, when the Cauſal is falſe. Thus a Prince may be unfortunate and born under ſuch a Planet: Though it be falſe that he was therefore unfortunate, becauſe he was born under ſuch a Planet.

Therefore the contradictories of Propoſitions chiefly conſiſt in this, that one thing is deny'd to be the cauſe of the other.

Not therefore unhappy, becauſe born under ſuch a Conſtellation.

RELATIVES.

Relatives are thoſe that include ſome Compariſon and ſome Relation.

Where the Treaſure is, there is the Heart.

As he liv'd, ſo he dy'd.

As much as thou haſt, ſo much art thou worth.

Here the Truth depends upon the exactneſs of the Relation; and they are contradicted by denying the Relation.

It is not true, that as he liv'd ſo he dy'd.

It is not true, that a Man is eſteem'd in this world according to what he has.

OF

OF DISCRETIVES.

Diſcretives are thoſe, where various Judgments are made, and this variety is denoted by the Particles (but) (notwithſtanding) or words of the like nature, either expreſs'd or underſtood.

Fortune may deprive me of my Wealth, but not my Vertue.

I endeavour to ſet my ſelf above things, but not to be ſubjected to 'em.

They who croſs the Seas, change only their Country, but not their Diſpoſition.

The truth of theſe Propoſitions depends upon the truth of both parts; and the ſeparation between 'em. For though both parts were true, a Propoſition of this ſort would be ridiculous, if there were no oppoſition between 'em, as if I ſhould ſay,

Judas *was a Thief, and yet he took it ill that* Mary Magdalen *power'd out her precious oyntments upon Chriſt.*

There may be ſeveral Contradictories of a Propoſition of this nature; as if one ſhould ſay,

'Tis not upon Riches, but upon knowledge that happineſs depends.

Which Propoſition may be contradicted ſeveral ways.

Happineſs depends upon Riches, and not upon knowledge.

Happineſs depends neither upon Riches nor knowledge.

Happineſs depends both upon Riches and Knowledge.

Thus we ſee that Copulatives are contradictories of Diſcretives. For theſe two laſt Propoſitions are Copulative.

CHAP. VIII.

Of Propoſitions Compos'd in Sence.

THere are other compos'd Propoſitions, whoſe Compoſition is more conceal'd and intricate; which may be reduc'd under four ſorts. 1. *Excluſive*, 2. *Exceptive*, 3. *Comparative*, 4. *Inceptive* or *Deſitive*.

1. Of EXCLUSIVES.

Thoſe are call'd Excluſive, which denote, that a Predicate ſo agrees with his ſubject, as to agree with that alone, and no other. Whence it follows, that they include two various Judgments, and by conſequence are composd in ſence. Which is expreſs'd by the word (only)

(only or ſome ſuch like words. Or in Engliſh, *There is none but God only who is to be belov'd for his own ſake*, all other things are to be admir'd for the ſake of God.

Only thoſe Riches which thou freely beſtow'ſt, ſhalt thou freely enjoy.

Vertue only makes Nobility, nothing elſe renders a Man truly noble.

I know this only, that I know nothing, ſaid the *Academics*.

Lucan ſpeaking of the Druids, makes this Disjunctive Propoſition compos'd of two Excluſives

—*you know*
The God and Heavenly Numens, you alone,
Or elſe to only you they are unknown.

Theſe Propoſitions are contradicted three manner of ways.

1. *By denying that the predicate agrees with the ſubject alone.*
2. *By affirming it agrees with ſomething elſe.*
3. *By alleadging it agrees with the one and the other.*

Thus this Propoſition, *only Vertue is true Nobility*, it may be contradicted.

1. *That Vertue does not make any one Noble.*
2. *That Birth renders a Man Noble as well as Vertue.*
3. *That Birth ennobles a Man, and not Vertue.*

So the Maxim of the Academic's, *this is only certain that there is nothing certain*, was variouſly contradicted by the *Dogmatics*, and the *Pyrrhonians*. For the *Dogmatics* deny it, by maintaining that it is doubly falſe, becauſe there are many things that we know moſt certainly; and therefore it was not true, that we were certain that we knew nothing. And the *Pyrrhonians* averr'd that it was falſe, for the contrary reaſon, that every thing was ſo uncertain, that it was uncertain whether any thing was certain.

And therefore there is a defect of Judgment in what *Lucan* ſpeaks of the *Druids*; becauſe there was no neceſſity, that only the *Druids* ſhould be in the truth, in reſpect of the Gods, or that they ſhould only be in an error. For in regard there were ſundry errors, concerning the nature of the Gods, it might well be, that though the *Druids* had different thoughts concerning the Gods, from thoſe of other Nations, they were no leſs in an error then other Nations. Here it is alſo to be obſerv'd, that there are Propoſitions which are excluſive in ſence, though the excluſion be not expreſs'd. As in this Verſe of *Virgil*, where the Excluſion is mark'd out,

Una ſalus victis, nullam ſperare ſalutem.

Thus

Thus luckily Tranſlated into *French*, where the Excluſion is underſtood.

Le ſalut des vaincus eſt de n'en point attendre.
The ſafety of the vanquiſh'd, is not to expect it.

Nevertheleſs it is more uſual in the *Latin* then *French*, to ſuppreſs Excluſions. So that there are ſome paſſages not to be Tranſlated with all their force, without making excluſive Propoſitions, though in the *Latin* the Excluſion be not mark'd.

Thus 2 *Cor.* 10. 17. *Qui gloriatur, glorietur Domino*; ought to be thus Tranſlated, *Whoever rejoices, let him rejoice in the Lord.*

Gal. 6. 7. *Quæ ſeminaverit homo, hæc & metet. A Man ſhall reap no more then what he has ſown.*

Epheſ. 4. 5. *Unus Dominus, una fides, unus Baptiſmus.* There is but one God, but one Faith, but one Baptiſm.

Mat. 5. 46. *Si diligitis eos qui vos diligunt, quam mercedem habebitis?* If you love only thoſe that love you, what recompence ſhall ye deſerve?

Seneca in his *Troas*, *nullas habet ſpes* Troja, *ſi tales habet.* If *Troy* has no other hope then this, it has none at all: As if the *Latin* had ſaid, *ſi tantum tales habet.*

2. OF EXCEPTIVES.

Exceptives are thoſe where a thing is affirm'd of the whole ſubject, except ſome one of the Inferiours of the Subject, by adding a Particle of Exception, which denotes that what is predicated, does not agree with that Inferior. Which viſibly includes two judgments, and renders thoſe Propoſitions compos'd in ſence. As if I ſhould ſay,

None of the Sects of the Ancient Philoſophers, except that of the Platonics, have acknowledg'd God to be incorporeal.

Where two things are to be underſtood, 1. That the Antient Philoſophers believ'd God to be Corporeal. 2. That the *Platonics* beleiv'd the contrary.

The covetous Man does nothing well, but when he dies.

No Man miſerable, unleſs compar'd.

No Man is miſcheif'd but by himſelf.

Except the wiſe Man, ſaid the *Stoics*, *all Men are truly Fools.*

Theſe Propoſitions are contradicted as many ways as the Excluſive.

1. By affirming that the *Stoics* wiſe Man was as much a fool as other Men.

2. By maintaining there were others, beſides the *Stoics* wiſe Men, that were no fools.

3. By

3. By alleadging that the *Stoics* wiſe Man was a Fool, and that others were wiſe Men.

We are farther to obſerve, that the Excluſive and Exceptive Propoſitions are the ſame thing, only expreſs'd after a different manner, ſo that with little difficulty they may be chang'd the one into the other. And thus we ſee that this exceptive of *Terence*,

The Ignorant thinks nothing well done but what he does himſelf.

Was chang'd by *Cornelius Gallus* into this Excluſive.

That, only right he thinks, which he does himſelf.

OF COMPARATIVES.

Propoſitions where a Comparative is deſign'd, include two judgments. For it is one thing to ſay a thing is ſuch a thing, and to ſay that it is more or leſs then another: By which means theſe Propoſitions become compos'd in ſence.

The greateſt of loſſes is to loſe a Friend.

Many times a pleaſing Raillery makes a deeper Impreſſion in the moſt important affairs, then the beſt of Reaſons.

Leſs hurtful are the wounds of a Friend, then the deceitful kiſſes of an Enemy.

Theſe Propoſitions are contradicted ſeveral ways, as that maxim of *Epicurus*. *Pain*

is the greateſt of Evils, was contradicted one way by the *Stoicks*, and after another manner by the *Peripatetics*, while the *Peripatetics* aver'd that pain was an evil; but they likewiſe maintain'd that Vice and other Irregularities of the Mind were far greater Evils then Pain. On the other ſide the *Stoicks* would not allow Pain to be an Evil, ſo far were they from acknowledging it to be the greateſt of all Evils.

But here it may be diſputed, whether it be always neceſſary that in theſe Propoſitions the Poſitive of the Comparative, ſhould agree with both the Members of the Compariſon; for Example, whether we ought to ſuppoſe two things to be good, that we may aver the one to be better then the other?

It ſeems at firſt that it ſhould be ſo; but we find it otherwiſe in practice; for we ſee the Scripture makes uſe of the word *Better*, not only in comparing two good things together: *Better is Wiſdom then Strength, and a prudent Man then a ſtrong Man.*

But alſo in comparing a good with an Evil, *Better is the patient then the proud Man.*

And ſometimes in comparing two evil things together. *Better is it to live with a Dragon then a ſcolding Woman.* And in the Goſpel, *it is better for a Man to be thrown into the Sea with a Milſtone about his Neck, then to hurt one of the Faithful.* The

The reaſon of this practice is, becauſe a greater good is better then a leſſer. And by the ſame reaſon we may ſay, tho leſs properly, that a benefit is better then an Evil; for that whatever has ſome goodneſs, has more then that which has none at all. We may alſo ſay, that a leſſer Evil is better then a greater Evil, being lookt upon as a kind of Good, in reſpect of Evil, and therefore the leſſer Evil has more of that ſort of goodneſs then the greater Evil.

But we are to take care leaſt the over-heat of Diſpute carry us unawares into vain brangles about theſe forms of Speech, as they did *Creſconius* the Donatiſt *Grammarian*, diſputing againſt St. *Auſtin*. For that ſame Father having ſaid that the Catholics had more reaſon to upbraid the Donatiſts with Tradition, then the Donatiſts to reproach the Catholicks, *Creſconius* thought he might from thoſe words, *Traditionem nos vobis probabilius Objicimus*, conclude, that St. *Auſtin* acknowledg'd that the Donatiſts had reaſon to tax the Catholicks. *For if you* ſaid he, *more probably*; *we therefore probably*. For the degree augments what is plac'd before it, does not impugn or deny what is ſaid before it. But St. *Auſtin* refutes this vain ſubtilty, firſt by examples of Scripture, and among the reſt by that paſſage of the Epiſtle to the *Hebrews*, where St. *Paul* having

having ſaid, That the Earth bearing only Thorns was Curſt, and was only to expect to be Burnt, he adds, *But we hope better things of you dear Brethren*; *not* ſays the Father, *that they were good things which he had rehearſed before, to bring forth Thorns and Briers, and to deſerve Burning, but rather becauſe they were evil, that thoſe being avoided they might chooſe and wiſh for better*, that is, *Benefits contrary to ſuch great Evils.* And afterwards he ſhews from the moſt famous *Grammarians* the falſhood of his Conſequence; in regard that *Virgil* might have been tax'd in the ſame manner, to have taken for a Good the violence of a Diſtemper, that enrages Men to tear their own Members, becauſe he wiſhes better may befal good Men.

Dii meliora piis erroremque hoſtibus illum,
Diſciſſos nudis laniabant dentibus artus.

How then, *Meliora piis* ſays the holy Father, *as if they had been Bleſſings, and not rather extream Evils, to tear their Bowels with their own Teeth.*

Of INCEPTIVES and DESITIVES.

When we ſay that any thing begins, or ceaſes to be, there are two judgments made

made; one that the thing was before the time that we talk of; the other, what it was afterward, and ſo theſe Propoſitions of which the one are call'd Inceptive, the other Deſitive, are compos'd in ſence, and they are ſo like, that it is much better to make but one ſort of 'em, and to handle 'em both together.

The Jews *did not begin till their return from the captivity of* Babylon, *to make no longer uſe of their antient Characters, which were thoſe that are now call'd the* Samaritan.

1. *The Latin ceas'd to be vulgarly ſpoken in* Italy *about five hundred Years ago.*

2. *The* Jews *did not begin till the firſt Century after Jeſus Chriſt, to make uſe of Points for Vowels.*

Theſe Propoſitions are contradicted as the one and the other relates to the two different times. So there are ſome who contradict the latter Propoſition; alledging, though falſly, that the *Jews* always uſed points, at leaſt to read by, and that they were kept in the Temple. Which is contradicted by others, who affirm that points were never us'd till after the firſt Century.

A General REFLECTION.

Though we have ſhewed that theſe Propoſitions Excluſive, Exceptive, *&c.* may be contradicted

contradicted ſeveral ways, yet it is as certain, that when they are barely deni'd, without any farther Explanation, the Negation falls naturally upon the Excluſion or the Exception, or the Compariſon, or the Alteration, denoted by the words of beginning or ceaſing. Therefore if any one believ'd that *Epicurus* did not place chief happineſs in Bodily pleaſure, and it ſhould be ſaid to him, *that only* Epicurus *placed cheif happineſs in Pleaſure*, if the other barely denied it, without adding any other thing, it would be in full declaration of his Sence, becauſe a Man might have reaſon to believe upon that bare Negation, that he ſtill believ'd that *Epicurus* plac'd his chief happineſs in pleaſure, but that he was not the only perſon who was of that opinion.

Alſo if a perſon ſhould ask me, knowing the integrity of a Judg, *whether he ſtill ſold Juſtice?* I could not anſwer barely, *No.*

For that ſuch a *No*, would only ſignify that he did not ſtill ſell Juſtice; but at the ſame time the other was left to believe, that he had formerly done it.

Which ſhews us that there are ſome Propoſitions, to which it would be unjuſt to require a bare anſwer, by *Yes*, or *No*; for that when they include two Senſes, a true anſwer cannot be given but by explaining both the one and the other.

CHAP.

CHAP. IX.

Obſervations to find out the Predicates and Subjects in Propoſitions, expreſs'd after a leſs uſual manner.

CErtainly it is a defect of vulgar Logic, that it does not accuſtom young beginners to underſtand the nature of Propoſitions or Arguments, but according to the order and formes which are uſed in the Schools, which are frequently different from what we find in the Writings of others, whether in Oratory, Morality, or any other of the Sciences.

And therefore they have no other *Idea* of a Subject or an Attribute, but that the one is the firſt Term of the Propoſition, and the the other the latter. And of Univerſality and Particularity, but that there is in the one, (*All*) or (*None*) and in the other, (*Some*) whereas all theſe things are ſubject to frequent Errors; and it requires Judgment to diſcern theſe things in ſeveral Propoſitions. Let us begin with the *Subject* and Attribute.

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The only and true Rule is to obſerve by the Sence, of what a thing is affirm'd, and what is affirm'd is this, for the firſt is always the Subject, and the latter the Predicate, however diſpos'd in order.

Thus there is nothing more common then theſe ſorts of Propoſitions; It is a ſhameful thing to be a ſlave to Luſt. Where by the Sence it is viſible, that *a ſhameful thing* is that which is affirm'd, and conſequently the Predicate; *and to be a ſlave to Luſt*, is that which is affirm'd of the thing, that it is a ſhameful thing, and conſequently the Subject. Likewiſe in St. *Paul* according to the Latin. *Eſt queſtus magnus Pietas cum ſufficientia*; whereas the true order ſhould be Godlineſs, with ſufficiency, is great gain.

Likewiſe in this verſe.

Happy the Man that knows the cauſe of things.

Happy is the Predicate, all the reſt is the Subject.

But the Subject and the Attribute are yet more difficult to be found out in complex Propoſitions. And we have already ſhew'd that ſometimes there is no diſcerning, but by the conſequence of the Diſcourſe, and the Authors Intention, which is the chief Propoſition

ſition, and which the Incident in the two propoſitions.

But beſides what has been ſaid we may yet obſerve, that in complex propoſitions, where the firſt part is only the Incident Propoſition, and the latter is the principal; as in the Major and Concluſion of this Argument,

God Commands us to honour Kings.
Lewis *the XIV. is King.*
Therefore God commands us to honour Lewis *the XIV.*

Here the Verb Active is to be chang'd into the Paſſive, to find out the true Subject of this principal Propoſition. For it is plain when I argue after this manner, that my principal intention in the *Major*, is to affirm ſomething of Kings, Whence I may conclude that we are to honour *Lewis* the XIV. And therefore what I affirm of the Command of God is only an incident Propoſition which confirms this Affirmative, that Kings are to be honour'd. Whence it follows that *Kings* is the Subject of the Major, and *Lewis* the XIV. the Subject of the Concluſion. Tho if we conſider things but only ſuperficially, both the one and the other ſeem to be no more than a part of the Attribute..

Theſe

Theſe Propoſitions are alſo frequent in our Language. *It is a folly to liſten to Flatterers. It is the Hail that falls. It is God who has purchas'd us*; But the Sence ſufficiently demonſtrates, that to replace theſe Propoſitions in their natural order, they ought to be thus expreſs'd.

To liſten to Flatterers is a folly.
It is the hail that falls.
He that has purchaſed us is God.

And this is almoſt Univerſal in all Propoſitions that begin with *It is*, and where afterwards follows (*who*) or (*that*) to have the Attribute at the beginning, and the Subject at the end. And let this ſuffice for once, to let you ſee, that the examples produc'd demonſtrate, that we are to judg by the Sence, and not by the order of the words. And this is neceſſary to be known, that we may not be deceiv'd in taking thoſe for falſe Syllogiſms, that are really true. For that want of diſcerning the Subject and the Attribute in the Propoſitions, we believe 'em contrary when they are conformable to the Rules.

CHAP.

CHAP. X.

Other Obſervations to know, whether the Propoſitions are Univerſal or Particular?

SOme Obſervations of the ſame nature, and no leſs uſeful, may be made of Particularity and Univerſality.

1. *OBSERVATION.*

We muſt diſtinguiſh Univerſality into two ſorts. The one may be call'd Metaphyſical, the other Moral.

I call Metaphyſical Univerſality, when the Univerſality is perfect and without exception; as, *every Man is living*, which admits no exception.

I call Moral Univerſality, that which admits ſome exception: For in Moral things it ſuffices, that things are ſo for the moſt part. As St. *Paul* both cites and proves,

The Cretans *are always Lyars, evil Beaſts, ſlow-bellies.*

Or as the ſame Apoſtle alledges in another place.

All ſeek their own things, not the things of Jeſus-Chriſt.

Or according to that of *Horace*,
All Muſitians have this Vice, &c.
Or according to the uſual Phraſes,
All Women love to chatt.
All Young Men are inconſtant.
All Old Men praiſe the time paſt.
In all theſe Propoſitions it ſuffices that it be ſo *for the moſt part*, neither is any thing to be concluded ſtrictly.

For as all theſe Propoſitions are not ſo general, but that they admit exceptions, ſo they may render the concluſion falſe. For it could not be particularly inferr'd, that any *Cretan* was a Lyar, or an evil Beaſt, tho the Apoſtle cites in general that Verſe of one of their own Poets.
The Cretans are always Lyars, evil Beaſts, and Slow-bellies.
For that ſome of that Iſland might not be guilty of thoſe vices which were common to others.

Therefore the moderation to be obſerv'd in theſe Concluſions, which are only morally Univerſal, is on the one ſide, to draw from thence with great judgment particular Concluſions; and on the other ſide, not to contradict 'em, nor to reject 'em as falſe; tho we may oppoſe certain Inſtances wherein they may ſtray from the Truth, but to be ſatisfy'd, if they may be extended from others be-

beyond their juſt limits, that they ought not to be taken too rigorouſly according to the Letter.

2. *OBSERVATION.*

There are ſome Propoſitions that ought to paſs for Metaphyſically Univerſal, tho they may admit of Exceptions, that is, when thoſe Exceptions are exotic, and ſuch, as according to common uſe, are not comprehended in thoſe Univerſal Terms. As when I ſay, *All Men have two Arms.* This Propoſition ought to paſs for true, according to ordinary uſe. And it would be but mere brangling to oppoſe againſt it, that there have been Monſters who were Men, though they had four Arms. It being plain that there was nothing intended concerning Monſters, in theſe general Propoſitions; and that the only meaning of the Aſſertion was, that according to the order of Nature, all Men had two Arms.

In like manner it may be ſaid, that all Men make uſe of words to expreſs their thoughts; but that all Men do not make uſe of writing. Nor would it be a rational Objection to contradict the truth of the Propoſition, by inſtancing dumb People, becauſe it is evident, though the ſence be not expreſs'd in words, that it was not meant of ſuch as had a natural impediment to make uſe of ſounds, either

becauſe they could not underſtand 'em, as thoſe that are deaf; or becauſe they could not utter 'em, like thoſe that are dumb.

3. *OBSERVATION.*

There are other Propoſitions which are not Univerſal, but only becauſe they are to be underſtood of the ſingle ſpecies's of *Genus*, and not of the Individuals of *Species*. Thus it is ſaid, that all Creatures were ſav'd in *Noah*'s Ark, becauſe that ſome of every Species were ſav'd. *Jeſus Chriſt* rebuk'd the *Phariſees* for taking the Tenths of all Herbs; not that they took the Tenths of all Herbs that were tak'n in the world; but becauſe that there was no ſort of Pot-herb of which they did not take the Tithes. Thus ſaid St. *Paul*, I endeavour to pleaſe all Men in all things; that is, I endeavour to frame my ſelf to the condition and humour of all ſorts of Perſons, *Jews*, *Chriſtians*, *Gentiles*; though he did not ſtrive to pleaſe his Proſecutors, that were ſo numerous. Thus it is ſaid, a Man has paſs'd all Offices: that is all ſorts of Offices ſuitable to his condition.

4. *OBSERVATION.*

There are Propoſitions that are not Univerſal, but only as the Subject ought to be tak'n, as reſtrain'd by one part of the Attribute.

bute. I ſay by one part; for it would be ridiculous to think it ſhould be reſtrain'd by the whole Attribute. As if any one ſhould affirm this Propoſition to be true; *All Men are juſt*, becauſe he gave no other Explication of it, then that all juſt Men are juſt. But when the Attribute is Complex, and conſiſts of two parts, as in this Propoſition; *All Men are juſt by the Grace of Jeſus Chriſt.* Then we may with reaſon affirm the term of *juſt* to be ſubintellected in the Subject, though it be not expreſs'd. For then it is clear that the meaning of the Propoſition is, that all Men who are juſt, are not juſt but by the Grace of *Jeſus Chriſt.* And ſo this Propoſition is true in all reſpects; though it may ſeem to be falſe, if we conſider no more then what is expreſs'd in the Subject; there being ſo many Men who are wicked and ſinful, and by conſequence have not been juſtify'd by the Grace of Jeſus Chriſt. There are a great number of Propoſitions in Scripture, which are to be taken in this ſence; and among the reſt that of St. *Paul*, *As all dy'd in* Adam, *ſo all ſhall live again in Jeſus Chriſt.* For it is certain, that a great number of *Pagans* that dy'd in their incredulity, ſhall not live again in Jeſus Chriſt. And that they ſhall have no part in the Life of Glory, of which St. *Paul* ſpeaks.

There are alſo ſeveral Propoſitions which

are not morally Univerſal, but in this manner. *The French are good Souldiers*; *the Hollanders are good Seamen*; *The Flemings are good Painters*; *The Italians are good Comedians*. As much as to ſay, that the *French* who are Souldiers, are good Souldiers; and ſo of the reſt.

5. *OBSERVATION.*

We are not to think that there are no other marks of Particularity, then theſe words, *Quidam*, *Aliquis*, and the like. On the other ſide it is very rarely that we make uſe of 'em, eſpecially in our Language.

The Plural number without the Particle (*The*) makes the word to be taken particularly, whereas the Particle being added, renders the word General. Thus there is a great difference between theſe two Propoſitions. *The Phyſitians now believe, that it is good to drink in the hot fit of a Fever*; and Phyſitians now believe, *&c.* For in the firſt Propoſition, *the Phyſitians*, concludes all Phyſitians: But in the ſecond, *Phyſitians* denotes only ſome particular Phyſitians.

But frequently *there is*, or *there are*, precede the Singular or the Plural Number, and that in two manners.

The firſt by placing after *there is*, or *there are*, the Subſtantive to be the Subject, and the

the Adjective to be the Attribute of the Propoſition. *There are ſome pains wholeſom*; *There are ſome pleaſures deadly*; *There are falſe Friends. There is a generous Humility*; *There are Vices conceal'd under the appearance of Vertue.* The ſecond manner is by joyning the Adjective and the Subſtantive together, by the Particles *which* or *who. As, there are fears which are rational.* But theſe Particles do not hinder, but that theſe Propoſitions may be ſingle in ſence, though complex'd in expreſſion. For 'tis no more then to ſay, *ſome fears are rational.* But theſe Phraſes of Speech are moſt uſual; *There are ſome Men who only love themſelves*; *There are Chriſtians who are unworthy of the Name.*

All or every one with a Negation makes a particular Propoſition. *Every one that ſays to me, Lord, Lord, ſhall not enter into the Kingdom of Heaven. Every ſin is not a crime.*

6. OBSERVATION.

When there is no Term of Univerſality or Particularity, as *Man is reaſonable*, *Man is juſt*, is a queſtion bandy'd among the Phyloſophers, whether theſe Propoſitions which they call *Indefinite*, ought to paſs for Univerſal or Particular.

To which the Phyloſophers reply, that the Propoſition ought to be Univerſal in a matter

neceſſary; but particular in a Contingent matter.

I find this opinion approv'd by ſeveral learned Men, and yet it is very erroneous. Rather we ought to believe the Indefinite Propoſition to be Univerſal, in what ever matter it be, when ſomething is affirm'd of the common Term, and therefore in Contingent matter, it ought not to be call'd a particular Propoſition, but a falſe univerſal Propoſition. And this is the natural judgment of all Men concerning Propoſitions, rejecting 'em as falſe, when they are not generally true, or at leaſt not in a moral generality, which is ſufficient in common diſcourſe of the affairs of the World.

For who would endure to hear a Man affirming, that *Bears are white*, that *Men are black*; that the *Pariſians* are *Gentlemen*; the *Polonians*, *Socinians*; the *Engliſh*, *Quakers*. Nevertheleſs, according to the diſtinction of theſe Philoſophers, theſe Propoſitions ought to paſs for true, in regard that being indefinite in a contingent matter, they ought to be taken for particulars. Now it is true that ſome Bears are white, as in *Nova Zembla*; ſome Men are black as the *Ethiopians*; ſome *Pariſians* are Gentlemen, ſome *Polonians* are *Socinians*; and ſome of the *Engliſh* are *Quakers*. Clear it is then, that in whatever matter they

be

be made, indefinite Propoſitions of this Nature are taken for Univerſal: But in a Contingent matter, a Moral Univerſality is ſufficient. Therefore theſe Propoſitions are true, the *French* are valiant; the *Italians* are jealous; the *Germans* are tall, the *Orientals* are voluptuous; though they be not true of all particulars, but only for the moſt part.

Here is therefore a more pertinent Diſtinction to be made; that theſe indefinite Propoſitions are Univerſal in matter of Doctrine, when we ſay, the *Angels are incorporeal*, and only particular in matters of Fact, and Hiſtorical Narrations. As when it is ſaid in the Goſpel, *The Souldiers having made a Crown of Thorns, ſet it upon his Head.* This is clearly to be underſtood of ſome and not of all the Souldiers. For in matter of ſingle actions, eſpecially when they are determin'd to a certain time, they do not uſually agree with the common Term, but becauſe of ſome particulars, the *Idea* of which is diſtinct in the underſtanding of thoſe that make the Propoſitions, as may be judg'd by what has been ſaid of complex'd Terms in ſence, *1 part cap.* 6. *2 part cap.* 4.

7. *OBSERVATION.*

The Names of *Body*, *Communalty*, *People*, being as uſually they are taken Collectively, for

for the whole Body, the whole Communalty, all the People, do not make the Propoſitions wherein they are inſerted properly Univerſal, nor particular, but rather ſingular. Thus when I ſay,

The Romans *vanquiſh'd the* Carthaginians.
The Venetians *make War againſt the* Turk,
The Judges of ſuch a place condemn'd a Criminal.

Theſe Propoſitions are not Univerſal; otherwiſe we ſhould conclude of every *Roman*, that he had vanquiſh'd the *Carthaginians*, which is falſe. Nor are the particulars. For that would be no more then if I ſhould ſay, That ſome of the *Romans* vanquiſh'd the *Carthaginians*. But they are ſingular. For the *People* is conſider'd morally as one Man, living ſeveral Ages, and ſo long ſubſiſting, as long as the Common-wealth endures: And ceaſes not to act by thoſe People of which it is compos'd, as a Man acts by his Members. Whence we may ſay, that the *Romans* who were vanquiſh'd by the *Gauls*, when they took *Rome*, overcame the *Gauls* in *Cæſar*'s time; by by one and the ſame Term, *Romans*, underſtanding that they were vanquiſh'd at one time, and Victors at another. Here we may note by the way, upon what a ſandy Foundation that vain-glory leans, which private Perſons challenge to themſelves the honour of the famous Atchievements of their Nation, wherein

wherein they had no part; as idle, as for a deaf Ear to claim particular glory from the quickneſs of the light, or the nimbleneſs of the Hand,

CHAP. XI.

Of Two ſorts of Propoſitions neceſſary for the learning of the Sciences, Definition and Diviſion.

IT is requiſite that we ſay ſomething of two ſorts of Propoſitions, which are of great uſe for the attaining of the Sciences; Definition and Diviſion.

Diviſion is the Partition of the whole into all that it contains.

But as there are two ſorts of the *whole*, ſo there are two ſorts of Diviſions. There is one *whole* compos'd of ſeveral parts, which are really diſtinct, whoſe parts are call'd Integral parts; and the Diviſion of this *whole* is properly call'd Partition. As when we divide a Houſe into its apartments, a City into its Wards and Quarters; a Kingdom into its Provinces: Man into Body and Soul, and the Body into its Members. The only Rule for making this Partition aright, conſiſts in the accurate numbring of the parts, ſo that nothing be omitted.

The other *Whole* is call'd by another name, *All*, and its parts are *Subjective* or *Inferior* parts:

parts: for that this *All*, is a common term, and its parts are the Subjects contain'd in its extent. As the word Creature is the *All* of that nature, whoſe inferior parts, as Man and Beaſt, which are comprehended in its extent, are ſubjective parts. This Diviſion retains properly the name of Diviſion, of which there are four ſorts.

1. When the *Genus* is divided by its Species. Thus, *All ſubſtance is either Body or Spirit. All Creatures are Man or Beaſt.*

2. When the *Genus* is divided by differences. *Every Creature is either rational or irrational. All numbers are even or odd. All Propoſitions are true or falſe. All Lines are ſtreight or crooked.*

3. When a common Subject is divided by the oppoſite Accidents, of which it is capable; or according to the diverſity of Accidents and Times. *As every Star gives light of its ſelf, or by reflection. All bodies either move, or ſtand ſtill. All the* French *are either Gentlemen, or* Plebians. *All Men are ſick, or well. All People to expreſs their minds, make uſe of words or of writing.*

4. When the Accident is divided into various Subjects. *As when happineſs is divided into that of the Mind or Body.*

The Rules of this Diviſion are.

1. That it be entire; that is, that the Members of the Diviſion contain the whole extent of

of the term divided. Thus *even* and *odd* comprehend the full extent of number; there being no number which is not even or odd. Nor is there any thing that plunges us more into falſe Argumentation, then want of obſerving this Rule. And that which deceives us is, that many times there are Terms, which appear ſo oppoſite, that they ſeem to admit no *Medium*, when really they do.

Thus between Ignorant and Learned, there is a certain Mediocrity of knowledge, that exempts a Man from the rank of the Ignorant, though it does not advance him among the Learned. Between Vertuous and Wicked, there is a certain Eſtate, of which we ſay, as *Tacitus* ſays of *Galba*, *magis extra vitia, quam cum virtutibus*, rather declining from vice, then adhereing to Vertue. For there are ſome People, who not being guilty of enormous Vices, are not call'd vicious, yet not being eminent for goodneſs cannot be ſaid to be vertuous. Between Healthy and Sick, there is the condition of a Man indiſpos'd and ſickly. Between day and night there is Twilight. Between Piety and Impiety there is ſuperſtition. And ſometimes this *Medium* is two fold, as between Covetouſneſs and Prodigality, there is Liberality and Frugality. Between fear that fears every thing, and raſhneſs, that fears nothing, there is valour that is not affrighted

frighted at danger; and wariness, that avoids unnecessary dangers.

2. The second Rule is, that the Members of the Division be oppos'd, as *even*, *odd*, *rational*, *irrational*. However it is not necessary that all the differences that make the Members opposite, should be Positive; it being sufficient that one be so, and that the other be the *Genus* alone, with the Negation of the other difference; for from hence arises the most certain opposition of the Members. Thus a Beast is distinguish'd from a Man, only by his want of reason, which is nothing Positive.

Thus *odd* in number is only the negation of divisibility into equal parts. Thus in the first number, there is nothing more then what is in the compound number, *unite* being the measure of both; and the first number no way differing from the Compound number, but in this, that it has no other measure but the Unite.

However we must confess it is better to express the opposite differences by positive Terms, if it may be done. For thereby the Nature of the Members of the Division, is more clearly understood. Therefore the Division of Substance into *Thinking*, and *extended*, is better then into Material and Immaterial; or into Corporeal and Incorporeal; for

or that the words Immaterial and Incorporeal, give us but an imperfect and confus'd *Idea*, of what is much better apprehended by the words *thinking Substance*.

The Third Rule, being a Conſequence of the Second, is, that one of the Members be not ſo enclos'd in the other, that this may be affirm'd of that; though perhaps it may be included another way. For a line is included in the ſuperficies, and the term of the ſolid, as a term of the ſolid. But that does not hinder, but that the extent may be divided into ſurface, line and ſolid; for that it cannot be affirm'd, that the Line is a Superficies, nor that the Superficies is a ſolid. But on the other ſide, number cannot be divided into *even*, *odd* and *ſquare*, becauſe every ſquare number being even or odd, it is enclos'd in one of the two firſt Members.

Neither muſt we divide opinions into true, falſe and probable, becauſe every true opinion is either true or falſe. But they may be firſt divided into true and falſe; and then both the one and the other into certain and probable.

Ramus and his Followers ſtrangely torment themſelves to ſhew that all Diviſions ought not to have above two Members. Which indeed is the beſt way of Diviſion, when it may be commodiouſly done. But Clearneſs and Facility

cility, being that which ought to be moſt conſider'd in the Sciences, Diviſions into three or more Members, ought not to be rejected, ſo much the rather, when they are moſt natural, and that there be a neceſſity of forc'd ſubdiviſions, to make 'em conſiſt of no more then two Members. For then inſtead of eaſing the Memory, which is the only benefit of Diviſions, we load it with a great number of Subdiviſions, much more difficult to be retained in Memory, then a Diviſion into more Members, all at once. For example, is it not more ſhort and natural to ſay, *every extent is either a Line, a Superficies, or a ſolid*, than with *Ramus*, *Every Magnitude is a Line, or a thing Conſiſting of Lines; every thing conſiſting of Lines, is either a ſuperficies or a ſolid Body.*

Laſtly we may obſerve that it is equally erroneous not to make anow, as to make too many Diviſions, the one does not ſufficiently ſatisfie the Mind; the other confounds and amuſes the Underſtanding. *Craſſotus*, in great Eſteem among the Interpreters of *Ariſtotle*, has greatly injur'd his Book with a multitude of Diviſions; by which we fall into that Confuſion which we ſeek to avoid. *Whatever is cut into Duſt is Confus'd.*

Chap.

CHAP. XII.

Of the definition of a thing.

THere are two ſorts of the Definition of things, the one more exact, which retains the name of Definition; the other leſs exact, which is call'd a Deſcription.

The more exact is that which explains the nature of the thing by eſſential Attributes; of which thoſe that are common are call'd *Genus*, and thoſe that are proper *Difference*.

Thus man is defin'd a rational Creature. The Soul is a Subſtance that thinks; the Body is a Subſtance extended; God is a perfect Being. And great care is to be taken that the *Genus* in the Definition be the next, and not the remote *Genus* of the thing defin'd.

Sometimes we define by integrant parts, as when we ſay, a Man is defin'd of Soul and Body. But then there is ſomething that ſupplies the place of *Genus*; as here the *Compound Being*; the reſt are taken for the difference.

The leſs exact Definition, which is called Deſcription, is that which gives ſome knowledg of a thing by the accidents that are proper to it; and ſo determines it, that we may frame ſuch an *Idea* of it, as diſtinguiſhes from other things.

Thus we deſcribe Plants, Fruits and Animals by their ſhape, by their bulk, their colour, and ſuch like accidents. And theſe are the deſcriptions moſt uſed by Poets, and Orators.

There are alſo Deſcriptions made by the Cauſes, by the Matter, Form, by the end, *&c.* As when we define a Clock to be an Engine compos'd of ſeveral Wheels, whoſe regular motion limits the ſeveral hours.

There are three things neceſſary to make a Definition good: that it be univerſal, proper, and clear.

1. It muſt be univerſal, that is, it muſt contain the whole thing defin'd; therefore the common definition of *Time*, to be the meaſure of Motion is not good. For that is very probable that time may be the meaſure of Reſt as well as Motion, in regard we ſay as well, that a thing has been ſo long at reſt, as that it has been ſo long in Motion. So that time ſeems to be nothing elſe but the continuance of a thing in any Condition whatever.

2. It muſt be proper, that is, it muſt agree with the thing defin'd. Therefore the common Definition of Elements, to be a *Simple Corruptible Body*, is erroneous. For the Heavenly Bodies being no leſs ſimple Bodies then the Elements by the Confeſſion of the Philoſophers, we have no reaſon to believe but that there are alterations in the Heavens Analogous to

to thoſe that happen upon Earth; ſince not to ſpeak of Comets which we now find, are not form'd of the Exhalations of the Earth, as *Ariſtotle* imagin'd, we diſcover ſpots in the Sun, which gather together, and then ſcatter again in the ſame manner as our Clouds, tho' much larger in extent.

Thirdly it muſt be clearer; that is, it ought to render the *Idea* of a thing defin'd, more plain and diſtinct, and make us as much as may be to underſtand the nature of it, and be ſerviceable to us to give a reaſon of its principal Proprieties. Which is that which we ought principally to conſider in Definitions, and which is wanting in the greateſt part of *Ariſtotles*.

For whoever underſtood the nature of motion, the better for the help of this Definition; *An Act of Ens in Potentia*, as in *Potentia*, or Power? Is not the *Idea* of it, wherewith Nature furniſhes us, a hundred times more clear then that? and indeed what did it ever avail to explain the Proprieties of Motion?

The four celebrated Definitions of the four firſt qualities are nothing better.

Drie, ſays he, is that which is eaſily retain'd within its bounds, and difficulty within thoſe of another Body.

Moiſture. On the other ſide is that which is eaſily retain'd in the Bounds of another Body difficultly within its own. 1. Theſe

1. Theſe Definitions better agree with hard and Liquid Bodies, then with Bodies moiſt and dry. For we ſay of the Air, that here it is dry, in another place moiſt, tho' it be always eaſily retain'd within the Bounds of another Body, as being always Liquid. Moreover we do not ſee how *Ariſtotle* could ſay that Fire, that is, Flame, was dry according to this Definition, becauſe it is eaſily confin'd within the Bounds of another Body. Whence *Virgil* calls it liquid Fire. And it is a vain ſubtilty to ſay with *Campanella*, that Fire encloſed, either *breaks* or *is broken*; for that proceeds not from its pretended drineſs, but becauſe its own Smoak ſtifles it, if it have not Air, and therefore it will be more eaſily reſtrain'd within the limits of another Body, provided it may have ſome Breathing-hole to to let out the Smoak which it continually ſends forth.

As for *hot*, he defines it, *that which congregates Homogeneals, and ſeparates Heterogeneals.*

Cold he defines *that which unites Heterogeneals, and diſſipates Homogeneals.* Which ſometimes agrees as well with *Hot* as with *Cold*; but not always, and which is of no uſe, neither to ſhew us the cauſe why we call ſome Bodies *Hot*, and others *Cold*. So that Chancellor *Bacon* had reaſon to ſay, that theſe definitions were like thoſe that ſhould define *a Man to be a Shoomaker, or a Vine-dreſſer.* The

The ſame Philoſopher defines Nature, *the principle of Motion and Reſt, in that wherein it is.* Which is grounded upon an opinion that he had, that all natural Bodies differ'd in this from Artificial Bodies, that natural Bodies had in themſelves the Principle of their Motion, and that the motion of Artificial Bodies was from without; whereas it is evident that no Body can give motion to its ſelf: in regard that matter being indifferent either to Motion or Reſt, cannot be determin'd to either of theſe, but by an extrinſic cauſe, which not being able to proceed to Infinity, it follows that God alone gives motion to matter, and preſerves it in its Motion.

His celebrated definition of the Soul is no leſs defective. *The firſt act of a natural organic Body, that has life in Power.*

Firſt it does not appear what he would define. For if it be the Soul, as common to Men and Beaſts, it is a *Chimera* which he has defin'd, there being nothing common between thoſe two things.

2. He has explain'd an obſcure Term by four or five that are more obſcure. For to omit the reſt, the *Idea* which we have of the word *Life*, is no leſs confus'd then that which we have of the Soul; theſe two Terms being equally ambiguous and Equivocal.

Theſe are the Rules of Definition and Di-

viſion; but tho' there be nothing of more moment in the Sciences, then to define and divide well, we need ſay no more in this place; becauſe it depends much more upon the knowledge of the Subject in diſputes then upon Logical Rules.

CHAP. XIII.

Of the Converſion of Propoſitions, where is a thorough Inquiſition into the Nature of Affirmation and Negation, upon which this Converſion depends. And firſt of the Nature of Affirmation.

I Have deferr'd till now to ſpeak of the Converſion of Propoſitions, becauſe upon that depends the Foundation of all Argumentation, of which we are to diſcourſe in the next part. And therefore it was not proper that this matter ſhould be remote from what we have to ſay of the nature of Arguments, though it behoves us to repeat ſome thing of what we have ſaid concerning Affirmation and Negation, that we may throughly explain the Nature both of the one and the other.

Certain it is, that we cannot explain a Propoſition to others, but we muſt make uſe of two *Ideas*, the one for the Subject, the other for the Attribute; as alſo of another word which

which denotes the Union, which our underſtanding conceives between 'em.

This Union cannot be better expreſs'd then by the words themſelves which we make uſe of to affirm, while we ſay, that one thing is another thing.

From whence it is evident, that the Nature of Affirmation is to Unite and Identifie, as I may ſo ſay, the Subject with the Attribute; for this is that which is ſignify'd by the word *eſt*, *it is*.

And it follows alſo, that it is the nature of Affirmation, to put the Attribute in all that is expreſs'd in the Subject, according to the Extent which it has in the Propoſition. As when I ſay, *Every Man is a Creature*, I would ſignifie, that whatever is Man is alſo a Creature; and ſo I conceive a Creature to be in all Men.

Whereas if I only ſay, ſome Man is juſt, I do not unite the Attribute of *Juſt* to all, but only to ſome one Man.

Here we muſt alſo conſider what has been already ſaid, that in *Idea*'s we muſt diſtinguiſh their Comprehenſion from their Extenſion; for that the Comprehenſion marks out the Attributes contain'd in one *Idea*; and the Extenſion the Subjects which contain that *Idea*.

For thence it follows, that an *Idea* is always affirm'd according to its Comprehenſion, for that by depriving it of ſome one of

its Eſſential Attributes, it is entirely annihilated, ſo that it is no more the ſame *Idea*. And by conſequence when it is affirm'd, it is always according to all that which it comprehends in it ſelf. Thus when I ſay, that a *Rectangle is a Parallellogram*, I affirm of a *Rectangle* all that is comprehended in the *Idea* of a *Parallellogram*. For if there were any part of this *Idea*, which did not agree with a *Rectangle*, it would follow, that the *Idea* it ſelf did not agree with it, but only one part. And therefore the word *Parallellogram* ought to be deny'd, and not affirm'd of a *Rectangle*. Which we ſhall find to be the Ground of all Affirmative Arguments.

And it follows, on the other ſide, that the *Idea* of the Attribute is not taken according to its full Extenſion; at leaſt that its Extenſion was not greater then that of the Subject. For if I ſay, that *all Laſcivious Men are damn'd*, I do not ſay they only ſhall be damn'd, but that they ſhall be of the number of the damn'd.

Thus the Affirmation placing the *Idea* of the Predicate in the Subject, it is properly the Subject which determines the extenſion of the Attribute, in an Affirmative Propoſition, and the Identity which it denotes, regards the Attribute, as included in an extent equal to that of the Subject; & not in all its Univerſality, if it have any more then the Subject. For it is true, that Lions are all included in the *Idea* of *Creature*, but it is not true that they are all the Creatures that are.

I

I have ſaid, that the Predicate is not taken in its full Generality, if it have any more then the Subject. For not being reſtrain'd but by the Subject, if the Subject be as general as the Attribute, it is clear, that the Predicate ſhall enjoy all its Generality, becauſe it ſhall have as much as the Subject, and for that we ſuppoſe, that according to its own nature it cannot have more.

From whence we may gather theſe four undoubted Axioms.

1. *AXIOM.*

The Attribute is plac'd in the Subject by the Propoſition affirmative, according to the full extent of the Subject in the Propoſition. That is, if the Subject be Univerſal, the Attribute is conceiv'd in the full extent of the Subject; and if the Subject be particular, the Predicate is only Conceiv'd in a part of the Extenſion of the Subject: As in the foregoing Examples.

2. *AXIOM.*

The Predicate of an Affirmative Propoſition, is affirm'd according to its full Comprehenſion: That is to ſay, according to all its Predicates.

3. *AXIOM.*

The Predicate of an Affirmative Propoſition, may be affirm'd according to its full Extenſion, if it be in its ſelf greater then that of its Subject. As when we ſay that Men are Creatures, the word Creature ſignifies no more all ſort of Creatures, but only ſuch Creatures as are Men.

CHAP.

CHAP. XIV.

Of the Converſion of Affirmative Propoſitions.

WE call that the Converſion of a Propoſition, when the Subject is chang'd into the Predicate, and yet the Propoſition holds true, if it were ſo before: Or rather that it neceſſarily follows to be true by the Converſion, ſuppoſing that it were ſuch before.

Now from what we have ſaid, it may be eaſily underſtood how this Converſion is to be made. For as it is impoſſible that one thing ſhould be joyn'd and united to another; but that the other muſt be joyn'd to the firſt; and that it follows of courſe, if *A.* be joyn'd to *B.* *B.* is alſo joyn'd to *A.* it is evident that it is impoſſible, that two things ſhould be conceiv'd as Identify'd, which is the moſt perfect of all Unions, but that the ſaid Union muſt be reciprocal, that is, unleſs it may be affirm'd of both Terms, that they are united in the ſame manner as they are ſaid to be. Which is calld Converſion.

Therefore as in particular Affirmative Propoſitions for example, when it is ſaid, *ſome Man is juſt*, the Subject and the Predicate are both Particular; for that the Predicate *juſt* being

being reſtrain'd by the extent of the Subject, ſignifies only that particular juſtice which is in ſome one Man; it is evident that if ſome one Man be Identify'd with *juſt*, ſomewhat of juſt is alſo Identify'd with ſome one Man. And therefore there needs no more then ſimply to change the Attribute into the Subject, obſerving the ſame particularity, to convert theſe ſorts of Propoſitions.

We cannot ſay the ſame thing of Univerſal Affirmative Propoſitions, becauſe that in thoſe Propoſitions the Subject is only Univerſal, that is, is taken in its full extent, and the attribute on the other ſide is limited and reſtrain'd. And therefore when it is to be made the Subject by Converſion, the ſame reſtriction is to be obſerv'd, and the mark which determines it, muſt be added, leaſt it ſhould not be taken generally. Thus when I ſay, that Man is a Creature, I unite the *Idea* of Man with that of a Creature, reſtrain'd and limited only to Men. And therefore if *I* would invert this Union, by beginning from a *Creature*, of which may afterwards be predicated, the ſame reſtriction of the firſt Term is to be obſerv'd, and for fear of being deceiv'd, ſome note of determination muſt be added.

However, becauſe Affirmative Propoſitions cannot be converted, but into particular Affirmatives, that they are leſs property converted then

then others. But as they are compos'd of a general Subject, and a reſtrain'd Predicate, it is evident when they are converted, by changing the Attribute into the Subject, they ought to have a reſtrain'd or limited Subject.

When we deduce theſe two Rules.

1. Rule.

Univerſal Affirmative Propoſitions may be converted, by adding a mark of Particularity to the Attribute, and become the Subject.

2. Rule.

Particular Affirmative Propoſitions are to be converted without any addition, or any change. That is, retaining only for the Attribute, become the Subjects the Mark of particularity that belong'd to the firſt Subject.

But theſe two Rules may be reduc'd to one that ſhall comprehend both.

The Attribute being limited by the Subject, in all affirmative Propoſitions, if the predicate is to be chang'd into the Subject, the Reſtriction muſt be obſerv'd: And by conſequence it muſt have a mark of particularity annex'd, whether the firſt Subject were Univerſal or Particular.

Nevertheleſs it often happens, that Univerſal Affirmative Propoſitions, may be converted into others that are Univerſal. But this is only when the Attribute is of it ſelf no larger in extent then the Subject, as when difference

ference or propriety are affirm'd of the Species, or the definition of the thing defin'd. For then the Attribute not being reſtrain'd, may be taken in the Converſion, as generally as the Subject, *all Men are Rational, all Rational Creatures are Men.*

But theſe Converſions not being true, unleſs upon particular occaſions, they are look'd upon as true Converſions, which ought to be certain and infallible, by the Diſpoſition of the Terms.

CHAP. XV.

Of the Nature of Negative Propoſitions.

THE nature of a Negative Propoſition cannot be more clearly expreſs'd then by ſaying, that one thing is conceiv'd not to be another.

But to the End one thing may not be another, it is not neceſſary that it ſhould have nothing common with it; it being ſufficient that it has not all which the other has; as it is ſufficient for a Beaſt not to be a Man, that he has not all that a Man has, not but that he may have ſomething common with Man. From whence this Axiom follows.

5. *AXIOM.*

A Negative Propoſition does not ſeparate from the Subject all the parts contain'd in the Comprehenſion of the Attribute; but it only ſeparates the total Idea *compoſed of all the united Attributes.*

If

If I ſay that Matter is not a thinking Subſtance, yet do I not deny it to be a Subſtance, but I ſay it is not a *Thinking* Subſtance, which is the total and entire which I deny of the Matter.

It is quite otherwiſe with the Extenſion of an *Idea*. For the Negative Propoſition ſeparates from the Subject the *Idea* of the Attribute in its full extent. The reaſon of which is evident. For to be the Subject of an *Idea*, and to be contain'd in its extenſion is no more then to include that *Idea*, and by conſequence when we ſay, that one *Idea* does not include another, which may be call'd denying; we ſay that it is not one of the Subjects of the *Idea*.

Thus when I ſay that a Man is not an *Inſenſible Being*, I ſay at the ſame time that Man is none of the Inſenſible Beings, and by conſequence I deny all things Inſenſible of Man, whence we may derive this Axiom.

6. *AXIOM.*

The Attribute of a Negative Propoſition is always taken generally. Which may be expreſs'd more diſtinctly. *All the Subjects of an* Idea, *which are denied of another* Idea, *are alſo denied of the former* Idea. If a Triangle be denied of Squares, whatever is Triangular ſhall be denied of a Square. In the Schools they uſually ſay, what is denied of the *Genus*, is denied alſo of the Species. For the Species is the Subject of the *Genus*, as Man is the Subject of *Creature*, being contain'd in the Extenſion of *Creature*.

Not only Negative Propoſitions ſeparate the Attribute from the Subject according to the full Extenſion of the Attribute; but they ſeparate that Attribute, alſo

alſo from the Subject, according to the full extenſion which the Subject has in the Propoſition. That is, it ſeparates it univerſally, if the Subject be Univerſal; particularly, if particular. As if I ſay, no vicious Man is happy, I ſeparate all vicious perſons from happy perſons. And if I ſay ſome one Doctor is not learned, I ſeparate learned from ſome Doctor. From whence we draw this Axiom.

7. *AXIOM.*

Every Attribute denied of a Subject, is denied of all that is contain'd in the extent which the Subject has in the Propoſition

CHAP. XVI.

Of the Converſion of Negative Propoſitions.

AS it is impoſſible to ſeparate two things totally, but that the ſeparation muſt be mutual and Reciprocal, it is evident that if I ſay, *No man is a Stone*, I can likewiſe ſay, *No Stone is a Man.* For if any Stone were a Man, that Man would be a Stone, and by conſequence it would not be true that no man was a Stone. Hence this Rule.

3. *Rule.*

Univerſal Negative Propoſitions may be converted ſimply

ſimply, by changing the Attribute into the Subject, and by preſerving the Attribute, become the Subject, the ſame Univerſality which the former Subject had.

In Negative Propoſitions, the Attribute is always taken Univerſally; as being denied according to its full extent.

But the ſame Reaſon will not allow the Converſion of particular Negative Propoſitions. For example, we cannot ſay that ſome one Phyſitian is not a Man, becauſe we may ſay that ſome one Man is no Phyſitian. Which proceeds from the nature of the Negation it ſelf, that in negative Propoſitions the Attribute is always taken Univerſally, and according to its full Extenſion. So that when a particular Subject becomes an Attribute by Converſion in a Negative particular Propoſition, it becomes Univerſal, and changes its nature, contrary to the Rules of true Converſion; which ought not to change the reſtriction of the Terms. So in this Propoſition, *Some one Man is no Phyſitian*, the term Man is taken particularly. But in the falſe Converſion, *Some one Phyſitian is no Man*, the word Man is taken Univerſally.

Now it no way follows, that becauſe the quality of the Phyſitian is ſeparated from *ſome one Man* in this Propoſition, *Some one Man is no Phyſitian*; or becauſe the *Idea* of a Triangle is denied of ſome other Figure, as in this Propoſition, *Some one Figure is no Triangle*, I ſay it does not follow hence, that there are any Phyſitians that are not Men, nor any Triangles that are not Figures.

The End of the ſecond Part.

THE ART OF LOGIC.

The Third Part.

Of Diſcourſe or Ratiocination.

THIS Part of which we are now to treat, containing the Rules of Diſcourſe, is accompted the moſt important Part of Logic, and is almoſt the only Part which ought to be handl'd moſt accurately. But we have ſome reaſon to ſuſpect whether it be altogether ſo uſeful. For the greateſt Part of the Errours among men, as we have already

ready ſaid, ariſes from hence, that they build their diſcourſes upon falſe Principles, rather then from their drawing falſe concluſions from their Principles. It rarely happens that we are impos'd upon by ſuch diſcourſes which are therefore only falſe, becauſe the conſequences are ill drawn. Seeing they who are not able to diſcover thoſe falſities by the light of Nature, will for the moſt part be as unable to underſtand, much leſs to apply the Rules which are laid down for diſcourſe. Nevertheleſs ſhould theſe Rules be look'd upon only but as ſpeculative Truth, they would be very uſeful for the exerciſe of the Wit. And moreover it cannot be deni'd but that they be of ſome uſe upon ſeveral occaſions, eſpecially to ſuch who being of a quick and lively apprehenſion, never ſuffer themſelves to be deluded by falſe Conſequences, but for want of heed and attention, which a due reflection upon theſe Rules would eaſily rectifie. However it be, we here preſent ye with what has been uſually ſaid concerning this matter and with ſomething more then has hitherto yet been diſcover'd.

CHAP. I.

Of the Nature of Ratiocination and the ſeveral ſorts of it.

THE neceſſity of diſcourſe is only founded upon the narrow Bounds of Human Wit; which being to judge of the truth or falſhood of a Pro-

poſition, which is then call'd a *queſtion*, cannot always do it by the conſideration of the two Ideas that compoſe it, of which that which is the Subject is call'd the *Leſſer Term*, becauſe the Subject is of a leſſer extent then the *Predicate*; and the Predicate is call'd the *Greater Term* for the contrary Reaſon. So then, when the ſole Conſideration of theſe two *Terms* does not ſuffice for a man to judg whether he ought to affirm the one or the other, there is a neceſſity to have recourſe to a third *Idea*, either Incomplex or Complex (according to what has been ſaid of Complex Terms) and this third Idea is call'd the *Medium*.

Now this Compariſon of the two Ideas together by means of the *Medium* would be uſeleſs, were the Compariſon to be made with only one of the Terms. As for example, if I would know, whether the Soul be Spiritual or no? and not underſtanding it at firſt, I ſhould make choice of the Idea of Thought, to dilucidate the queſtion; it is clear that it would be to no purpoſe to compare Thought with the Soul, if it did not conceive ſome correſpondency between Thought and the Predicate or thing Spiritual, by means of which I may be able to judge whether it agrees with the Soul. Thus I may ſay the Soul thinks, but I cannot thence conclude that the Soul is Spiritual, unleſs I conceive ſome Relation between *Thought* and that of *Spiritual*.

So then it is requiſite that the Middle Term ſhould be compar'd as well with the Subject or Leſſer Term, as with the Predicate or Greater Term, whether it be with both apart as in Syllogiſms, which are therefore call'd *Simple*; or with both together at one time, as in Arguments which are call'd *Conjunctive*.

But as well in the one as other manner this Comparison requires two Propositions.

We shall speak in particular of Conjunctive Arguments: but in Simple Arguments the thing is clear; for that the Middle Term being compar'd with the Predicate of the Conclusion (which cannot be done but by affirming or denying) makes the Proposition which we call the *Major*, because the Attribute of the Conclusion is call'd the *Greater Term.*

And being another time compar'd with the Subject of the Conclusion, it makes that proposition which is call'd the *Major*, because the Subject of the Conclusion is call'd the *Lesser Term.* And the Conclnsion is inferr'd, which is the *P*roposition it self to be prov'd, and which before it was prov'd was call'd the *question.*

It is also necessary to know that the two first *P*ropositions are call'd the *Premises*, because they are plac'd at least in the understanding, before the Conclusion, which ought to be a necessary consequence, if the Syllogism be good; that is to say; the Truth of the *P*remises being suppos'd, it follows necessarily, that the Conclusion shall be good.

True it is, that both the *P*remises are not always express'd, because that oft times one alone suffices to represent Both to the understanding. And when two *P*ropositions only are express'd that sort of Argument is call'd an *Enthymene*, as being a true Syllogism in the Intellect, because it supplies the *P*roposition that is not express'd; however it is defective in words, and concludes nothing but by vertue of the *P*roposition which is not express'd.

I have ſaid that there are at leaſt three propoſitions in one Argument; however there may be more, and yet the Argument not be faulty, provided the Rules be alſo obſerv'd. For after we have conſulted a third Idea, to know whether a Predicate agrees or not agrees with a Subject, and compar'd it with one of the Terms, I may make choice of a Fourth and a Fifth to make the matter plain, till I come to a predicate of the Concluſion that agrees with the Subject.

As for example, if I put the queſtion, *Whether Covetous men be miſerable.* I may firſt conſider, that covetous men are full of deſires and paſſions; but if from that conſideration I cannot conclude *covetous men to be miſerable*, I will conſider what it is to be full of deſires, and there I ſhall conſider the Idea of wanting thoſe things which a man deſires, and the miſery of that privation; from whence I may form this Argument.

Covetous men are full of Deſires.
They who are full of Deſires want ſeveral things; it being impoſſible they ſhould ſatisfie their deſires. Now they that want what they deſire are miſerable.
Covetous men are therefore miſerable.

This ſort of Argument compos'd of ſeveral Propoſitions, of which the ſecond depends upon the firſt, the third upon the ſecond, and ſo forward is call'd *Sorites*. And theſe are thoſe Arguments which are moſt uſual in the Mathematics. But becauſe when they are ſo long the Intellect has much ado to follow 'em, and for that the number of three

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And being another time compar'd with the Subject of the Concluſion, it makes that propoſition which is call'd the *Major*, becauſe the Subject of the Concluſion is call'd the *Leſſer Term.* And the Conclnſion is infert'd, which is the *Propoſition* it ſelf to be prov'd, and which before it was prov'd was call'd the *queſtion.*

It is alſo neceſſary to know that the two firſt *Propoſitions* are call'd the *Premiſes*, becauſe they are plac'd at leaſt in the underſtanding, before the Concluſion, which ought to be a neceſſary conſequence, if the Syllogiſm be good; that is to ſay; the Truth of the *Premiſes* being ſuppos'd, it follows neceſſarily, that the Concluſion ſhall be good.

True it is, that both the *Premiſes* are not always expreſs'd, becauſe that oft times one alone ſuffices to repreſent Both to the underſtanding. And when two *Propoſitions* only are expreſs'd that ſort of Argument is call'd an *Enthymene*, as being a true Syllogiſm in the Intellect, becauſe it ſupplies the *Propoſition* that is not expreſs'd; however it is defective in words, and concludes nothing but by vertue of the *Propoſition* which is not expreſs'd.

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Propoſitions is ſufficiently proportionable to the extent of our Underſtanding; men have taken the more care to examine the Rules of good and bad Syllogiſms, that is to ſay, of Arguments of three Propoſitions. Wherein it will not be amiſs to follow the footſteps of others. Becauſe thoſe Rules may be readily apply'd to all Arguments compos'd of ſeveral Propoſitions; ſo that if they are good, they may be reduc'd into Syllogiſms.

CHAP. II.

The Diviſions of Syllogiſms into Simple and Conjunctive, and of Simple into Incomplex and Complex.

Syllogiſms are either *Simple* or *Conjunctive*. *Simple* Syllogiſms are thoſe which are only joyn'd at one time to one of the Terms of the Concluſion. Thus, this is a ſimple Argument.

Every good Prince is belov'd by his Subjects,
Every Pious King is a good Prince,
Therefore every Pious Prince is belov'd by his Subjects.

For here Pious King is joyn'd ſeperately with the Subject of the Concluſion, and with *belov'd by his Subjects* which is the *Predicate*. But this that follows is Conjunctive for the contrary Reaſon.

If an Elective Kingdom be ſubject to diviſions, it cannot be of long continuance.
But an Elective Kingdom is ſubject to Diviſions.
Therefore

Therefore an Elective Kingdom is not of long continuance.

For here *Elective Kingdom*, which is the Subject, and of *Long-Continuance*, which is the Predicate, are both comprehended in the Major.

Now in regard, theſe two ſorts of Sillogiſms have their ſeparate Rules, we ſhall treat of 'em apart.

The ſimple Sillogiſms, which are thoſe where the middle Term is join'd by turns with each of the terms of the Concluſion, are alſo of two ſorts.

The one, where every term is join'd entirely with the middle Term; that is to ſay with the Predicate entirely in the *Major*, and with the Subject entirely in the *Minor*.

The other, where the concluſion being Complex, that is, compos'd of Terms Complex; one part of the ſubject, or one part of the predicate is join'd with the middle Term in one of the propoſitions; and all the reſt, which is no more then one ſole Term, is join'd with the middle Term in the other Propoſition. As in this Argument,

The Law of God obliges us to honour Kings.
James the Second is King; *Ergo*,
The Law of God obliges us to honour *James* the Second.

We ſhall call the firſt ſort of Argument *Clear* or Incomplex'd. and the other *Implicated* or *Compex'd*; not that all thoſe that contain Complex'd proportions are of the latter ſort; but becauſe there are none of the latter ſort wherein there are not Complex'd propoſitions.

Now tho' the Rules are generally given for ſimple Sillogiſms, may ſerve for all complex'd Sillogiſms.

provided they be inverted, nevertheleſs becauſe the force of the Concluſion does not depend upon that Inverſion. We ſhall here apply the Rules for ſimple Sillogiſms only to Incomplex'd, reſerving another place to ſpeak of Sillogiſms Complex'd.

CHAP. III.

General Rules for ſimple Sillogiſms Incomplex'd.

This Chapter, with thoſe that follow to the Twelfth are ſuch, of which we have ſpoken in our Preliminary Diſcourſe, that contain things ſubtil and quaint, and neceſſary for the Speculation of Logic, but of little Uſe.

WE have already ſeen in the foregoing Chapters, that a ſimple Sillogiſm ought to have no more then three Terms, the two Terms of the Concluſion, and the middle Term; each of which being twice repeated, make three Propoſitions. The *Major* containing the middle Term, and the predicate of the Concluſion, call'd the Major Term; the *Minor* containing the middle Term, and the Subject of the Concluſion, call'd the leſſer Term, and

and the Concluſion wherein the leſſer Term is the Subject, and the greater Term the Predicate.

But becauſe all ſorts of Concluſions are not to be drawn from all manner of Premiſes, there are General Rules that make it appear, that a Concluſion cannot well be drawn into a Sillogiſm, where they are not duly obſerv'd. And theſe Rules are grounded upon thoſe Axioms eſtabliſh'd in the ſecond part, concerning the nature of Propoſitions Affirmitive, Negative, Univerſal and Particular, which we ſhall here only repeat as being prov'd in another place.

1. Particular proportions are included in generals of the ſame nature, and not generals in particulars. *I.* in *A.* and *O.* in *E.* not *A.* in *I.*, nor *E.* in *O.*

2. The Subject of a propoſition taken univerſally or particularly is that which renders it univerſal or particular.

3. The predicate of an affirmative Propoſition, being never of a larger extent then the Subject, is always conſider'd as taken particularly: For that it is only by accident, if it be ſometimes taken Generally.

4. The Predicate of a Negative propoſition is always taken generally.

Upon theſe Axioms chiefly are founded the general Rules of *Sillogiſms*, not to be violated without falling into falſe Argumentation.

1. RULE.

1. RULE.

The middle Term cannot be takᵉn twice particularly, but it ought to be takᵉn at leaſt once Univerſally.

For in regard the two Terms of the Concluſion are to be united or disjoin'd, it is apparent that no ſuch thing can be done, if the middle Term be taken for two different parts of the ſame whole, ſince it may happen that it may not prove to be one and the ſame part of the two Terms that ſhall be united or diſunited. Now being taken twice particularly, it may be taken for two different parts of the ſame whole: and by Conſequence nothing can be concluded, or at leaſt not neceſſarily. Which is enough to render an Argument Vicious: ſince we call a true Sillogiſm, only that whoſe Concluſion cannot be falſe if the Premiſes be true. As thus in this Argument.

Some one Man is Pious.
Some one Man is a Robber.
Therefore ſome one Robber is Pious.

Here the word Man being taken for the ſeveral parts of Men, cannot unite *Robber* with *Pious*; becauſe it is not the ſame perſon that is a *Robber*, and *Pious*.

The ſame cannot be ſaid of the Subject and Predicate of Concluſion. For tho' they be taken twice particularly, yet may they be join'd together by uniting one of the Terms to the middle Term in the full extent of the middle Term. For it follows from thence very well; that if the middle Term be united in any one of its parts to ſome part of

of the other term, the firſt term which we have ſaid to be join'd to the entire middle Term, will be join'd alſo with the term to which any part of the middle Term is join'd. Thus if there be ſome *French* in all the houſes in *Paris*, and that there be *Germans* in ſome Houſes in *Paris*, it follows that there are ſome Houſes in *Paris*, where there lives together at leaſt one *German*, and one *Frenchman*.

If ſome Rich Men are Fools.
And all Rich Men are to be honour'd.
There are ſome Fools to be honour'd.

For the Rich that are Fools are alſo to be honoured, ſince all Rich Men are to be honoured, and by conſequence in thoſe Rich and honour'd Fools, the qualities of Fools and Honour'd are join'd together.

2. RULE.

The Terms of the Concluſion cannot be taken more Univerſally in the Concluſion then in the Premiſes.

And therefore if the one or the other Term be taken Univerſally inthe Concluſion, the Argument will be falſe, if it be taken particularly in the two firſt Proportions.

The Reaſon is, for that nothing can be concluded from a Particular to an Univerſal. For becauſe ſome one Man is a *Blackamore*, it cannot be thence concluded that all men are *Blackamores*.

Corollary.

1. *Corollary.*

There must be always one Universal Term more in the Premises which is not such in the Conclusion. For every Term that is universal in the Conclusion must be Universal in the Premises; and moreover the middle Term must be at least once universally taken.

2 *Corollary.*

When the Conclusion is Negative, of necessity the greater Term must be taken generally in the Major. For it is taken generally in the Conclusion (by the Fourth *Axiom*) and by consequence must be taken generally in the Major (by the 2*d. Rule.*)

3 *Corollary.*

The Major of an Argument, of which the Conclusion is Negative, can never be a particular Affirmative: For the Subject and Predicate of an Affirmative Proposition are both taken particularly (by the *Second* and *Third Axiom*) and so the greater Term would be taken particularly contrary to the *Second Corollary.*

4. *Axiom.*

The lesser Term is always in the Conclusion as in the Premises, that is as it cannot but be particular in the Conclusion when it is particular in the Pre-

Premiſes, ſo on the contrary it muſt be always general in the Concluſion when it is ſo in the Premiſes. For the leſſer Term cannot be General in the Minor; when it is the Subject of it, unleſs it be generally united or diſunited from the middle Term. For it cannot be a Predicate and taken univerſally, unleſs the Propoſition be Negative, becauſe the Predicate of an Affirmative Propoſition is always taken particularly. Now in Negative Propoſitions, if the Predicate be taken in its full extent, it is a ſign that it is diſunited from its Subject. And by conſequence, a Propoſition where the middle Term is univerſal, denotes a union of the middle Term with the whole leſſer Term, or a diſunion of the middle Term from the whole leſſer Term.

Now if by this Union of the leſſer Term with the whole middle Term, it be concluded that ſome other Idea is joyn'd with the leſſer Term, it is to be concluded that it is joyn'd with the whole, and not with part: For the middle Term being joyn'd to the whole leſſer Term can by that Union prove nothing of one part, which it does not prove of the reſt as being joyn'd to the whole.

In like manner, if the diſunion of the middle Term from the leſſer Term prove any thing of any part of the leſſer Term, it proves it of all the parts, as being from all the parts equally diſunited.

5. *Corollary.*

When the Minor is a Negative univerſal, if a lawful concluſion may be drawn from it, it muſt be

be always General. This is a consequence of the Corollary preceding. For the lesser Term cannot fail to be taken generally in the Minor when it is a Negative Universal, whether it be the Subject (by the second Axiom) or the Predicate (by the Fourth.)

3. *Rule.*

Nothing can be concluded from two Negative Propositions.

For two Negative Propositions seperate the Subject from the middle Term, and the Predicate also. Now when two Things are seperated from the third Thing, it does not follow either that those things are or are not the same third Thing. For from hence that the *Spaniards* are not *Turks*, and that the *Turks* are not Christians, it does not follow that the *Spaniards* are not Christians. Nor does it follow that the *Chineses* are Christians, though they be no more *Turks* then the *Spaniards*.

4 *Rule.*

A Negative Conclusion cannot be prov'd by two Affirmative Propositions.

For because the two Terms of the Conclusion are united with the third Term, it does not follow but that they may be disunited one from another.

5 *Rule.*

The Conclusion always follows the weaker Part: That is to say, if one of the Propositions be Negative the

the Concluſion muſt be Negative; if the Propoſition be particular, the Concluſion muſt be particular.

For if one Propoſition be Negative, the middle Term is diſunited from one of the parts of the Concluſion, and therefore cannot unite both, which however is neceſſarily requir'd to make an Affirmative Concluſion.

Alſo if one of the Propoſitions be particular; the Concluſion cannot be General. For if the Concluſion be a Univerſal Affirmative, the Subject being Univerſal, it ought to be Univerſal in the *Minor* and by conſequence the Subject of it, the predicate never being taken generally in Affirmative Propoſitions. Therefore the Middle Term added to this Subject ſhall be particular in the Minor and therefore General in the Major; otherwiſe it will be twice particularly taken. Therefore it ſhall be the Subject of it, and by conſequence this Major Propoſition ſhall be Univerſal. Thus it is plain that no particular Propoſition can precede, whoſe concluſion ſhall be Univerſal.

Which is yet more manifeſt in Univerſal Negative Concluſions. For thence it would follow that there ought to be three Univerſal Terms in the Premiſes (by the firſt Coroll.) But in regard there ought to be one Propoſition Affirmative (by the 3. *Rule*) whoſe predicate is taken particularly, it follows that all the other three terms are taken Univerſally and by conſequence both Subjects of the Premiſes ſhall be taken Univerſally, which renders 'em Univerſal. Which was the thing to be demonſtrated.

6 Corollary

6 Corollary.

That which concludes the General, concludes alſo the Particular.

That which concludes A, concludes I. and that which concludes E, concludes O. But that which concludes the Particular does not for all that conclude the General. This is a conſequence of the preceding Rule and the firſt Axiom. But we are to underſtand that moſt men are pleas'd to conſider theſe ſorts of Syllogiſms only according to their moſt Noble Concluſion which is the General: So that they do not accompt for a particular ſort of Syllogiſm that wherein it is only concluded of the Particular; becauſe it may be concluded of the Univerſal.

So that there is no ſort of Syllogiſm where the Major being A. and the Minor E. the concluſion is O. For (by the 5. *Corollary*) the Concluſion of an Univerſal Negative Minor may be always Univerſal. So that if an Univerſal Concluſion cannot be drawn, the Reaſon is, becauſe there can be none at all. Hence A. E. O. never conſtitute a Syllogiſm, but when A. E. E. are included.

6 Rule.

From two particular Propoſitions nothing follows.

For if they are both Affirmatives, the middle Term ſhall there be taken twice particularly, whether it be the Subject (by the 2 *Axiom*) or the predicate (by the 3 *Axiom.*) Now by the firſt Rule there is nothing concluded by a Syllogiſm, whoſe middle

middle Term is taken twice particularly.

But if one of the Premiſes be a Negative, the Concluſion being the ſame, by the preceding Rule, there ought to be at leaſt two Univerſal Terms in the Premiſes, (according to the 2 *Corollary.*) Therefore there muſt be one Univerſal Propoſition in the two Premiſes, it being impoſſible ſo to diſpoſe three Terms in two Propoſitions, where there ought to be two Terms taken Univerſally, but that there muſt be two Negative Predicates, which would be againſt the third Rule; or ſome one of the Subjects Univerſal, which makes the Propoſition Univerſal.

CHAP. IV.

Of the Figures and Modes of Syllogiſms in General. That there can be no more then four Figures.

THE General Rules being eſtabliſht which neceſſarily ought to be obſerv'd in ſimple Syllogiſms, it remains that we obſerve how many ſorts of Syllogiſms there are.

Generally there are many as ſorts of Syllogiſms, as there are different Manners of diſpoſing, according to theſe Rules, the three propoſitions of one Syllogiſm, and the three Terms of which they are compos'd.

The Diſpoſition of the three Syllogiſms accord-

ing to their four Differences A.E. I. O. is call'd the *Mode*.

The Diſpoſition of the three Terms, that is, of the middle Term, with the three Terms of the Concluſion, is call'd *Figure*.

Now it may be known how many concluding Modes there may be, the various figures not being conſider'd, according to which every Mode may conſtitute ſeveral Syllogiſms. For by the Doctrine of Combinations, four Terms, as A.E.I.O. being taken three and three, cannot be variouſly diſpos'd in any more then 64 manners. But of theſe 64 manners, they who will take the pains to conſider every one apart ſhall find that there are—

28 excluded by the 3 and 6 Rule, that nothing is concluded from two Negatives and two particulars.

18 by the 5. That the Concluſion follows the weaker part.

6 by the 4. That nothing can be concluded Negatively from two Affirmatives.

1: That is to ſay I.E.O. by the 3 *Corollary* of general Rules.

1. That is to ſay A.E.O. by the 6 *Corollary* of general Rules.

Which make in all 54. and by conſequence there remain but 10 concluding Modes.

4 Affirmative { A. A. A. / A. I. I. / A. A. I. / I. A. I.

6 Negative. { E. A. E. / A. E. E. / E. A. O. / A. O. O. / O. A. O. / E. I. O.

Bu

But it follows not from hence that there are only ten ſorts of Syllogiſms; in regard that every one of theſe Modes may compoſe ſeveral ſorts; according to the manner, whence ariſes the Diverſity of Syllogiſms, which is the various diſpoſition of the three Terms, which is call'd Figure as we have already ſaid.

Now for this diſpoſition of three Terms, it only regards the two firſt Propoſitions; for the Concluſion is ſuppos'd before you can make the Syllogiſm to prove it. And thus when the middle Term can only be diſpos'd in four manners, there can be no more the four poſſible Figures.

For either the middle Term is the *Subject in the Major, and the Predicate in the Minor*; which makes the firſt Figure.

Or it is the *Predicate on the Major and Minor*, which makes the ſecond Figure.

Or it is the *Subject both in the one and the other*; which makes the third Figure.

Or it is the *Predicate in the Major and the Subject in the Minor*, which makes the fourth Figure. It being certain, that what ſuffices neceſſarily to make a true Syllogiſm, may be ſometimes concluded in this manner. We ſhall produce Examples afterwards.

Nevertheleſs, becauſe nothing can be prov'd from this fourth Manner, but after a manner, not very natural, *Ariſtotle* and his followers have not allow'd the name of Figure to this Mode. Yet *Galen* maintains the contrary: So that it is clear the Diſpute is only about words, which is to be decided, when they ſhall both agree what they mean by the word Figure.

But they moſt certainly lye under a miſtake, who take for the fourth Figure (which they accuſe *Ariſtotle* not to have underſtood) thoſe Syllogiſms, wherein the Major and Minor are tranſpos'd as thus.

Every Body is diviſible.
Every thing that is diviſible is imperfect.
Therefore, every Body is imperfect.

I admire *Gaſſendus* ſhould fall into this ſnare. For it is ridiculous to take for the Major of a Syllogiſm, the propoſition which firſt appears, and for the Minor the ſecond propoſition. For ſo we might as well take the Concluſion for the Major, or the Minor of an Argument, becauſe it is oft times the firſt or ſecond of the propoſitions that compoſe it: as in theſe Verſes of *Horace* the Concluſion is the the firſt, the Minor the ſecond, and the Major the third.

qui melior ſervo qui liberior ſit avaro.
In triviis fixum cum ſe dimittit ad aſſem.
Non vides: nam qui cupiet, metuet quoque porro
qui metuens vivit, liber mihi non erit unquam.

All which may be reduc'd into this Syllogiſm.

He that lives under continual Apprehenſions is not free.
Every covetous man lives under continual Apprehenſions.
Therefore, no covetous man is free.

Therefore there is no regard to be had to the ſimple Local Diſpoſition of the Propoſitions, which make no change in the Intellect. But we are to take for Syllogiſms of the firſt Figure, all thoſe where the middle Term is the Subject of the Propoſition, where is found the greater Term or Predi-

cate

cate of the Concluſion; and the Predicate in that propoſition where is found the leſſer Term, or the Subject of the Concluſion. And ſo thoſe are to be reckon'd Syllogiſms of the fourth Figure, where middle Term is the predicate in the Major, and the Subject in the Minor. And ſo hereafter we ſhall call 'em, hoping no body will take it ill, beeauſe we give 'em fair notice before hand, that we do not underſtand by this word *Figure*, any thing more, then a different Diſpoſition of the middle Term.

CHAP. V.

The Rules, Modes, and Foundations of the firſt Figure.

THE firſt Figure is that where the Middle Term is the Subject of the Major and the Predicate of the Minor. And this Figure has two Rules.

1 *Rule.*

The Minor muſt be Affirmative.

For were it Negative, the Major would be Affirmative by the third general Rule, and the concluſion Negative by the fifth. Therefore the greater Term would be taken Univerſally in the Concluſion, as

being a Negative, and particularly in the Major, becauſe it is the predicate of it in this Figure, and would be the Major Affirmative; which is contrary to the ſecond Rule, which forbids concluding from a Particular to a General. This Reaſon alſo takes place in the third Figure, where the greater Term is the predicate in the Major.

2. RULE.

The Major muſt be univerſal.

For the Minor being affirmative by the preceding Rule, the middle Term which is the Predicate of it, is there taken particularly, therefore it muſt be Univerſal in the Major where it is the Subject, which renders it Univerſal; otherwiſe it would be taken twice particularly againſt the firſt General Rule.

That there can be but four Modes in the firſt Figure.

The Demonſtration.

We have ſhewed in the preceding Chapter, that there can be but ten concluding Modes. But of theſe ten Modes A. E. E. and A. O. O. are excluded by the firſt Rule of this Figure.

I. A. I. and O. A. O. by the ſecond, where the Major is to be Univerſal.

A. A. I. and E. A. O. are excluded by the fourth Corollary of the General Rules. For that the leſſer Term being the Subject of the Minor, it cannot be Univerſal, but the concluſion may be Univerſal likewiſe.

And

And ſo by Conſequence there remains but theſe four Modes.

2. Affirmative. A. A. A. / A. I. I. 2. Neg. E. A. E. / E. I. O.

Which we are to Demonſtrate.

Theſe four Modes, to the end they may be the more eaſily retain'd in Memory, have been denoted by certain artificial words; of which the three Sillables denote the three Propoſitions; and the vowel of each Syllable the mode of the Propoſitions. So that theſe three words have this Convenience in the Schools, that they ſhew the entire Species of the Syllogiſm, which without it could not be done without a long Circumlocution of words.

BAR- *Whoever ſuffers to die for Hunger thoſe whom he ought to preſerve, is a Homicide.*

BA- *All Rich Men who do not give Alms in publick neceſſities ſuffer thoſe to dye with Hunger whom they ought to preſerve,* Ergo,

RA. *They are Homicides.*

CE. *No impenitent Robber can expect to be ſav'd.*

LA- *All thoſe who dye after they have enrich'd themſelves with the goods of the Church without Reſtitution, are impenitent Robbers.*

RENT. *Therefore none of thoſe can expect to be Saved.*

DA- *Whatever makes for Salvation is advantageous.*

RI. *Some Afflictions make for Salvation.*

I. *Therefore there are Afflictions that are advantageous*

FE- *Whatever is attended with a juſt Repentance is not to be deſired.*

R I. *There are ſome Pleaſures that are attended with juſt Repentance.*

O. *Therefore there are ſome Pleaſures that are not to be deſired.*

Now in regard that in this Figure the greater Term is denied or affirmed of the middle Term taken Univerſally, affirm'd afterwards in the Minor of the leſſer Term, or the Subject of the Concluſion, it is clear that it is only founded upon two principles, the one, for Moods Affirmative, the other for the Negative Moods.

The Principle of the Moods Affirmative.

Whatever agrees with an Idea taken Univerſally, agrees with all whatever that Idea is affirm'd of, whether it be the Subject of that Idea, or comprehended within its Extenſion; For theſe Expreſſions are Synonimous.

Thus the Idea of *Animal* agrees with all Men, it agrees alſo with all the *Ethiopians*. This Principle has been ſo explain'd in the Chapter where we have treated of affirmative propoſitions, that there is no need of any farther Expoſition. It ſhall ſuffice to add that in the Schools it is expreſs'd in theſe Terms, *That which agrees with the Conſequent, agrees with the Antecedent*; and that by the Term *Conſequent* is meant a general Idea that is affirm'd of another, for that in effect the Predicate is drawn by Conſequence from the Subject. If he be a Man he is an Animal.

The

The Ground of the Negative Modes.

That which is denied of an Idea taken Univerſally, is denied of all that is affirm'd of that Idea.

A Tree is deni'd of all Animals, it is therefore deni'd of all Men, becauſe they are Animals.

It is thus expreſs'd in the Schools, *Whatever is denied of the Conſequent, is denied of the Antecedent.* That which has been already ſpoken in the Chapter of Negative Proportions, is the reaſon we ſay no more here.

It is to be obſerv'd that only the firſt Figure concludes in *A. E. I. O.*

And that only the ſame Figure concludes in *A.* The reaſon of it is, for that to the end the concluſion may be Affirmative, there is a neceſſity that the leſſer term ſhould be generally taken in the Minor, and by conſequence that it ſhould be the Subject of it, and that the Minor term ſhould be the Predicate of it; from whence it comes to paſs that the middle Term is taken particularly. It muſt be therefore taken generally in the Major (by the firſt general Rule) and by Conſequence it muſt be the Subject of it. Now this is the nature of the firſt Figure, that the middle Term is the Subject in the Major, and the Predicate in the Minor.

CHAP. VI.

CHAP. VI.

The Rules, Modes, and Principles of the ſecond Figure.

THE ſecond Figure is that where the middle Term is twice predicated. And from thence it follows that to the end it may conclude neceſſarily, it ought to obſerve theſe two Rules.

1. RULE.

One of the two firſt Propoſitions muſt be Negative, and by Conſequence, ſo muſt alſo be the Concluſion by the Sixth general Rule.

For if they were both Affirmative, the middle Term, which is always the Predicate would be taken twice particularly contrary to the firſt general Rule.

2. RULE.

The Major muſt be Univerſal.

For the Concluſion being Negative, the greater term ſhall be taken Univerſally. Now the ſame Term is the Subject of the Major. Therefore it ought to be Univerſal, and by Conſequence render the Major Univerſal.

Demonſtration.

Demonſtration.

That there can be but four Modes in the Second Figure.

Of the ten concluding Moods, the four Affirmative are excluded by the ſecond Rule of this Figure, that one of the Premiſes ought to be Negative.

O. A. O. is excluded by the ſecond Rule, that the major ought to be Univerſal.

E. A. O. is excluddd for the ſame Reaſon, as in the firſt Figure, becauſe the leſſer Term is the Subject in the Minor.

So that only theſe four Moods remain.

2. General. { E. A. E. / A. E. E. } 2. Particular. { E. I. O. / A. O. O. }

Which four Moods are comprehended under theſe Artificial Words.

CE- *No Lyar is to be believ'd.*
SA- *Every good Man is to be believ'd.*
RE. *Therefore no good Man is a Lyar.*
C. A. *All thoſe that belong to Jeſus Chriſt, Crucify the Fleſh.*
MES- *All thoſe that lead a Life of Pleaſure and Voluptuouſneſs, do not Crucify themſelves.*
FRES. *Therefore none of thoſe belong to Jeſus Chriſt.*
FES- *No Vertue is contrary to the Love of Truth.*
TI- *There is a Love of Peace which is contrary to the Love of Truth.*
NO. *Therefore there is a Love of Peace, which is not Vertue.*
BA- *All Vertue is accompanied with Diſcretion.*

RO. *Their*

R O. *There are ſome ſorts of Zeal that are not accompanied with Prudence.*

C O. *Therefore all ſorts of Zeal are not Vertues.*

The foundation of this ſecond Figure.

It would be eaſy to reduce all theſe ſorts of Arguments to one Principle, ſhould we make uſe of many words. But it is more advantageous to reduce two to one Principle, and two to another, becauſe their Dependance and Connexion with theſe two principles, will thereby be made out more Clear and Immediate.

The Principle of the firſt Arguments in Ceſare *and* Feſtino.

The firſt of theſe Principles, is that which ſerves alſo as a Foundation for negative Arguments of the firſt Figure, *That whatever is denied of a Univerſal Idea, is alſo denied of whatever the Idea is affirm'd, that is of all the Subjects of that Idea.*

For it is clear, that all the Arguments in *Ceſare*, and *Feſtino* are grounded upon this Principle. For example, to ſhew that no good Man is a Liar; I have affirm'd *to be believed* of every *good Man*, and I have deni'd a *Liar*, of *every Man to be believ'd*. Saying no Liar is to be believ'd. I confeſs the way of denying is ſomewhat indirect; for when *Lyar* is to be deni'd of the perſon to be believ'd, *to be believ'd* is denied of Lyars. But when Univerſal negative Propoſitions are ſimply converted, by denying the predicate of a Subject Univerſal, the Univerſal Subject of the Predicate is alſo denied.

This ſhews us however that the Arguments in *Ceſare* are in ſome manner indirect, ſince that which ought

ought to be denied, is not denied but indirectly. But becauſe that does not hinder the Intellect from comprehending eaſily and clearly the force of the Argument, they may paſs for direct, if this word may ſignifie a clear and natural Argument.

This ſhews us alſo that theſe two Modes of *Ceſare* and *Feſtino* nothing differ from the two Modes of the firſt Figure, *Celarent* and *Ferio*, only that the major is converted. But tho' we may ſay that the negative modes of the firſt Figure are more direct, it often happens nevertheleſs that theſe two Modes of the ſecond Figure that are anſwerable to 'em, are both more natural and more eaſy to be underſtood. For example, as to what we firſt propos'd, tho the direct order of Negation requir'd, that we ſhould haveſaid, no perſon that is to be believ'd is a Lyar, which had made an Argument in *Celarent*, yet it is more clear to the Underſtanding that no Lyar is to be believ'd.

The ground of the Arguments in Cameſtres *and* Barocco.

In theſe two Modes the middle Term is affirm'd of the predicate of the Concluſion, and deni'd of the Subject, which ſhews that they are directly grounded upon this Principle. *Whatever is comprehended in the Extenſion of an Univerſal Idea, agrees with none of the Subjects of which that is deni'd. The Predicate of a Negative Propoſition being taken according to its full Extent, as has beeen prov'd in the ſecond Part.*

True Chriſtian is comprehended under the extent of Charitable, in regard every true Chriſtian is Charitable. Charitable is deni'd of one that has no pity upon the Poor, and therefore a true Chriſtian

Chriſtian is deni'd to have no pity upon the Poor which produces this Argument.

Every True Chriſtian is charitable.
No perſon without pity toward the Poor is Charitable
Therefore no perſon without Pity toward the Poor is a true Chriſtian.

CHAP. VII.

The Rules, Modes, and the Grounds of the Third Figure.

IN the third Figure, the middle Term is twice the Subject. Whence it follows.

1. RULE.

That the Minor ought to be Affirmative.

Which we have prov'd by the firſt Rule of the firſt Figure; becauſe that both in the one and the other the predicate of the concluſion is predicate in the Major.

2. *Rule.*

There is no concluding but Particularly.

For the Minor being always *Affirmative*, the leſſer Term, which is the predicate is particular, therefore cannot be Univerſal in the Concluſion, where it is the Subject; which would be to conclude a general from a particular.

Demonſtration.

That there can be but ſix modes in the third Figure.

Of the ten concluding Modes, A. E. E. and A. O. O. are excluded by the firſt Rule of this Figure,

gure, that the Minor cannot be Negative.

A. A. A. and E. A. E. are excluded by the ſecond Rule, that the Concluſion cannot be general.

So that only ſix modes remain.

3. Affirmative. { A. A. I. / A. I. I. / I. A. I. } 3. Neg. { E. A. O. / E. I. O. / O. A. O. }

All theſe Modes are reduc'd under ſix artificial words, tho in another order.

D A- *The Diviſibility of Infinite matter cannot be comprehended.*
R A- *The Diviſibility of Infinite matter is moſt certain.*
P T I. *Therefore there are ſome moſt certain things which are Incomprehenſible.*

F E. *No man can deſert himſelf.*
L A P. *Every man is an Enemy to himſelf.*
T O N. *Therefore ſome Enemies cannot be deſerted.*

D I. *There are ſome wicked Men that abound in wealth.*
S A- *All wicked Men are miſerable.*
M I S. *Therfore ſome miſerable Men abound in Wealth.*

D A- *Every Servant of God is a King.*
T I- *There are Servants of God that are Poor.*
S I. *Therefore there are ſome poor Men that are Kings.*

B O- *There are ſome ſorts of Anger not to be blam'd.*
C A R- *All Anger is a Paſſion.*
D O. *Therefore ſome Paſſions are not to be blam'd.*

F E- *No abſurdities are Elegant.*
R I- *There are abſurdities in Figures.*
S O N. *Therefore there are Figures that are not Elegant.*

The

The Ground of the third Figure.

The two terms in the Concluſion being Attributes in the concluſion being fix'd to the ſame Term in the Premiſes which ſupply the place of a middle term, the Affirmative modes of this Figure may be reduc'd under this Principle.

The Ground of the Affirmative Moods.

When two Terms may be affirm'd of one and the ſame thing, the one Term may be affirm'd of the other particularly.

For being united with the ſame thing, becauſe they both agree with it; it follows that they are ſometimes united together, and therefore the one may affirm of the other particularly. But that we may be aſſur'd that two terms are affirm'd of one and the ſame thing, the middle Term muſt be taken univerſally. For ſhould it be taken twice particularly, they would be thought to be two ſeveral parts of one common Term, which would not be the ſame thing.

The Ground of the Negative Modes.

When of the two Terms the one may be deni'd, the other affirm'd of the ſame thing, the one may be denied of the other particularly

For it is certain they are not always conjoin'd when they are not united in this thing. Therefore the one may ſometimes be deny'd of the other, that

that is, that the one may be deni'd of the other taken particularly; but for the ſame reaſon, the middle term muſt be always taken univerſally, that it may be one and the ſame thing.

CHAP. VIII.

Of the Modes of the fourth Figure.

THE fourth Figure is that wherein the middle Term is the predicate of the Major, and the Subject in the Minor; but it is ſo irregular, that it is hardly worth while to ſet down the Rules, were it not that nothing may be wanting to demonſtrate all the ſimple Modes of Arguments.

1. RULE.

When the Major is affirmative, the Minor is always Univerſal.

For the middle Term is taken particularly in the major Affirmative. And therefore by the firſt General Rule, it muſt be taken Univerſally in the Minor, becauſe it is the Subject of it.

2. RULE.

When the Minor is affirmative, the Concluſion is always Particular.

For the leſſer Term is the Predicate in the Minor And by conſequence it is taken particularly when it is affirmative; whence it follows by the ſecond

General Rule, that it ought to be alſo particular in the concluſion, which renders it particular, as being the Subject of it.

3. RULE.

In the Negative Modes the Major muſt be General.

For the concluſion being Negative, the greater term is there taken generally. And therefore by the ſecond General Rule, it muſt be taken generally in the Premiſes. Now it is the Subject of the major, as well as in the Figure, and therefore by conſequence as well here as in the ſecond Figure, being generally taken, it muſt render the major General.

Demonſtration.

That there can be but five Modes in the fourth Figure.

Of the ten concluding Modes, A. I. I. and A. O. O. are excluded by the firſt Rule.

A. A. A. and E. A. E. by the ſecond.

O. A. O. by the third.

So that only five remain.

2. Affirmative. { A. A. I. / I. A. I. } 3. Neg. { A. E. E. / E. A. O. / E. I. O. }

Theſe five Figures are reduc'd under theſe five artificial words.

B A R- *All miracles of Nature are ordinary.*

B **A**- *What is ordinary does not move us.*

R I. *There*

R I. *Therefore ſome things do not move us which are Miracles of Nature.*
C A- *All the evils of this Life are tranſitory.*
LEN- *All tranſitory Evils are not to be fear'd.*
TES. *Therefore no Evil of this Life is an Evil to be fear'd.*
D I- *Some Fools ſpeaks Truth.*
B A- *Whoever ſpeaks Truth, is worthy to be admired.*
T IS. *Therefore there are ſome to be admir'd, who ceaſe not however to be Fools.*
FES. *No vertue is a natural quality.*
P A- *Every natural quality has God for its Author.*
MO. *Therefore ſome Natural qualities that have God for their Author, are not Vertues.*
FRE- *No miſerable Perſon is content.*
S I- *There are contented Perſons that are Poor.*
SOM. *Therefore there are ſome poor Men that are not Miſerable.*

It is to be obſerv'd that theſe five modes are generally denoted by theſe words, *Baralipton*, *Celantes*, *Dabitis*, *Fapeſmo*, *Triſeſomorum*; which proceeded from this, that *Ariſtotle* not having made any ſeparated Figure of theſe Modes, they are not look'd upon, but as indirect modes of the firſt Figure, wherein the Concluſion was Inverted, the true Subject being the term Predicated. For which reaſon, they who follow'd that Opinion, have put for the firſt Propoſition, that wherein the Subject of the Concluſion enters, and for the Minor, that wherein the Predicate enters.

And therefore to this firſt Figure they aſſign'd nine Modes, four direct, and five indirect, which they reduc'd under theſe two Verſes.

Barbara Celarent, Darii, Ferio, Baralipton, Felapton, Diſamis, Datiſi, Bocardo, Feriſon.

But in regard the concluſion being always ſuppoſed, as being that which is to be prov'd, cannot properly be ſaid to be ever inverted, we thought it more advantageous to take always for the *Major*, the Propoſition where the Attribute of the Concluſion enters, which oblig'd us that we might put the Major firſt, to invert the order of the Syllables of thoſe Artificial words in this manner.

Barbari, Calentes, Dibatis, Feſpaſmo, Friſeſon.

A Recapitulation of the ſeveral ſorts of Syllogiſms.

From what has been ſaid, we may conclude that there are Nineteen ſorts of Syllogiſms, which may be variouſly divided.

1. Into { Generals 5. / Particulars 14. }
2. Into { Affirm. 7 / Negat. 12. }
3. Into ſuch as conclude { A. 1. / E. 4. / I. 6. / O. 8. }

4. According to ſeveral Figures, in ſubdividing 'em by the Modes, which has already been ſufficiently done by the explication of every Figure.

5. On the contrary according to the Modes in ſubdividing 'em by the Figures, which will produce Nineteen ſpecies of Sillogiſms, becauſe there are three modes, of which every one conclude in one Figure only; ſix, of which every one concludes n two Figures, and one that concludes in all the four.

CHAP. IX:

CHAP. IX.

Of complex Syllogiſms, and how they may be, reduced into common Syllogiſms, and how judg'd by the ſame Rules.

WE muſt confeſs, that if there be any thing wherein Logic does good, there is much more wherein it does miſchief: and we muſt acknowledg at the ſame time, that there are none to whom it does more Injury then thoſe who vainglorioufly affect to appear moſt excellent in the Art. For this affectation it ſelf being a mark of a Wit mean, and of little Solidity, it happens uſually that while they employ their whole time rather upon the bark of Rules, then in the Study of good Sence, they are eaſily induc'd to reject, as Evil, Arguments ſuch as are very good, not having diſcretion enough to accommodate 'em to the Rules themſelves, which only ſerve to deceive 'em, being but imperfectly underſtood.

To avoid this vanity which ſavors ſo much of Pedantry ſo unbecoming a generous Spirit, we ought to examine the ſolidity of an Argument rather by the Light of reaſon, then by forms. And one of the ways to ſucceed is, when we meet with any difficulty, to form other Syllogiſms of the ſame nature upon different matters, and when it clearly appears to us that they conclude right, to conſider only true Sence. For then if we find any thing

that does not ſeem conformable to rules, we ought rather to believe 'tis the defect of our Underſtanding, and not that they are contrary to Rule.

But thoſe are the Arguments of which it is moſt difficult to make a true Judgment; and in which it is moſt eaſy to be deceiv'd, which as we have already ſaid, are call'd *Complex'd*, not ſimply, becauſe they conſiſt of complex'd propoſitions; but becauſe the Terms of the Concluſion being complex'd, were not taken entirely in any of the premiſes to be join'd with the middle Term, but only with a part of one of the Terms. As in this Example.

The Sun is a thing Inſenſible.
The Perſians *adore the Sun.*
Therefore the Perſians *adored a thing Inſenſible.*

Where we find that the concluſion having for its Predicate, *adored a thing Inſenſible*, there is but one part in the Major, that is a thing Inſenſible, and *ador'd* in the Minor.

As to theſe Syllogiſms therefore we ſhall do two things.

Firſt, we ſhall ſhew how they may be reduc'd to Incomplex'd Syllgiſms, of which we have ſpoken hitherto, that we be may able to examine 'em by the ſame Rules.

In the ſecond place we ſhall demonſtrate, that there may be general Rules given for the quick Examination of the Truth, or falſhood of theſe Syllogiſms, without the help of Reduction.

And indeed it is a ſtrange thing, that although Logic be ſo highly valu'd above its deſerts, even to maintain that it is abſolutely neceſſary for the acquiſition of the Sciences, it is yet ſo ſuperficially handl'd, that there has been nothing ſaid of thoſe things

things which are moſt uſeful in it. For they generally content themſelves with giving Rules for ſimple Syllogiſms, which are ſo clear, that no body ever thought to propoſe 'em ſeriouſly in any Diſcourſe; for whoevever minded ſuch a Syllogiſm as this? Every Man is an Animal, *Peter* is a Man, therefore *Peter* is an Animal.

But they never trouble themſelves to apply the Rules of Syllogiſms to Arguments, whoſe Propoſitions are Complex'd, tho' it be oftimes very difficult, and that there are many Arguments of this nature, which appear to be falſe; but yet are very true. Beſides that theſe ſorts of Arguments are much more in uſe then thoſe that are entirely ſimple; which is more eaſy to be ſhewn by Examples then Rules.

1. EXAMPLE.

For example, we have affirm'd that all Propoſitions compoſ'd of Verbs Active, are in ſome manner complex'd, and of theſe Propoſitions oftimes arguments are fram'd, whoſe form and force of concluding, it is a hard matter to underſtand; as in this,

The Divine Law Commands us to honour Kings.
James *the Second is King.*
Therfore the Divine Law commands us to honour James *the Second.*

Some Perſons wanting Judgment, have accuſ'd theſe ſorts of Syllogiſms of being defective. Becauſe ſay they, they are compos'd of pure Affirmatives in the ſecond Figure, which is an eſſential defect. But theſe perſons plainly make it appear

that they conſulted more the Letter and outward Rind of Rules, then the Light of Reaſon by which theſe Rules were found out; for this Argument is ſo true and concluding, that if it were contrary to the Rule, it would be an Argument that the Rule it ſelf was falſe, and not the Syllogiſm.

I ſay then that this Syllogiſm is true; for in this Propoſition, *the Law of God commands us to honour Kings*, the word *Kings* is taken generally for all Kings in Particular, and by Conſequence *James* the Second is of the number of thoſe Kings, whom the Law of God commands us to Honour.

In the Second place I ſay, that the word *King* which is the middle Term, is not the Predicate in this Propoſition, *The Law of God Commands us to honour Kings*, tho' it be join'd to the Predicate *Commands*, for that which is truly the *Predicate* is affirm'd and agrees with the Law of God. 2. The Predicate is reſtrain'd to the Subject. Now the word *King* is not reſtrain'd in this Propoſition, *The divine Law commands us to honour Kings*, becauſe it is taken generally.

If therefore any one demand where the miſtery lies, that that word is the Subject of another Propoſition envelopp'd in the former. For when I ſay, *the Law of God commands us to honour Kings*, I attribute *command* to the Law, and *honour* to Kings, as if I ſhould have ſaid, *The Law of God commands that Kings ſhould be honour'd.*

Moreover in this Concluſion, the Law of God Commands us to honour *James* the Second. *James* the Second is not the Predicate, though join'd to the Predicate, but on the contrary the Subject of the latent Propoſition, as if I had ſaid, the Law of

of God commands that *James* the Second ſhould be honour'd.

So then the Propoſitions being unfolded in this manner.

The Divine Law commands that Kings ſhould be honoured.

James *the Second is a King.*

Therefore the divine Law commands that James *the Second be honoured.*

It is clear that the whole Argument conſiſts in theſe Propoſitions.

Kings ought to be honoured.

James *the Second is a King.*

Therefore James *the Second ought to be honoured.*

And that this Propoſition, the divine Law commands, which appear'd to be the Principle, is only a Propoſition incident to the Argument, which is join'd to the Affirmation of which the Law of God is a Proof.

And it is alſo clear that this Syllogiſm belongs to the firſt Figure in *Barbara*, the ſingular Terms *James* the Second, paſſing for Univerſal, as being taken in their entire extent.

2. EXAMPLE.

For the ſame reaſon this Argument which ſeems to be of the ſecond Figure, and conformable to the rules of that Figure is Invalid.

We ought to believe the Scripture.

Tradition is no Scripture.

Therefore we ought not to believe Tradition.

For it ought to have been reduc'd to the first Figure, as thus.

The Scripture ought to be believ'd.
Tradition is not the Scripture.
Therefore Tradition is not to be believ'd.

Now there is nothing concluded from a Negative Minor in the first Figure.

3. EXAMPLE.

There are other Arguments which seem to be purely Affirmative in the second Figure, which nevertheless are most concluding, as thus.

Every good Shepheard is ready to lay down his Life for his Sheep.
But there are now adays few Shepheards who are ready to lay down their Lives for their Sheep.
Therefore there are now adays few good Shepheards.

Now that which makes this Argument good is this, that there is no Conclusion affirmatively, but in Appearance; for the Minor is an exclusive proposition which contains in its Sence this Negative. *Several Shepheards now adays are not ready to lay down their Lives for their Sheep.* And the Conclusion reduces it self to this Negative, *Several Shepheards now adays are not good Shepheards.*

4. EXAMPLE.

Here is an Argument, which being of the first Figure, seems to have a Minor Negative, and yet is very true.

All

All they, from whom what they delight in cannot be taken away by force, are ſafe from the aſſaults of their Enemies.

But from thoſe, who love God alone, thoſe things in which they delight cannot be taken away.

Therefore all they who love God alone, are free from the aſſaults of their Enemies.

That which makes this Argument good is, that the Minor is not *Negative* but in appearance, being really *Affirmative.*

For the Subject of the Major, which ought to be the Predicate of the Minor, is not, *They from whom can be taken what they delight in*; but quite contrary, they from whom thoſe things cannot be taken. Now this is that which is affirm'd of thoſe that love none but God alone, according to the Sence of the Minor.

Now all they who love none but God alone, are of the Number of thoſe from whom that which they delight in cannot be taken away. Which is viſibly an Affirmative Propoſition.

5. EXAMPLE.

And this happens alſo when the Major is a Propoſition Excluſive, as thus,

The Friends of God are only happy.

Now there are ſome Men who are not the Friends of God.

Therefore there are ſome Rich Men that are not happy.

For the Particle *only* is the reaſon that the firſt Propoſition of this Syllogiſm is equivalent to theſe two, *The Friends of God are happy, but other Mortals*

tals, who are not the Friends of God, are not happy.

Now in regard the force of the Argument depends upon the ſecond Propoſition, the Minor which ſeem'd to be Negative becomes Affirmative, becauſe the Subject of the Major, which ought to be the predicate in the Minor, is not *the Friends of God*, but *they* who are not the Friends of God, ſo that the Syllogiſm ought to be reduc'd into this Term.

All thoſe who are not the friends of God are not happy.

But there are ſome Rich Men who are not in the number of thoſe who are the Friends of God.

Therefore there are ſome Rich Men who are not happy.

Now becauſe it is not neceſſary to expreſs the Minor in this manner, but that the form of a Negative Propoſition may be allow'd it, therefore it is the ſame thing to ſay Negatively, as affirmatively that a Man is of the number of thoſe who are not the Friends of God.

6. EXAMPLE.

There are many other Syllogiſms of the ſame nature, whoſe Propoſitions appear Negative, and yet they are true, becauſe there is one which is not Negative but in appearance, and which is really affirmative, as we ſhall make appear by this Example.

That which has not Parts cannot periſh by the diſſolution of parts.

The Soul has no parts.

Therefore the Soul cannot periſh by the diſſolution of parts

There

There are ſome who bring theſe ſorts of Syllogiſms to ſhew that that ſame Logical Axiom (nothing is to be concluded from pure Negatives is true) is not true. But they did not conſider that as to the Sence, the Minor of this Syllogiſm and others of the ſame nature is *Affirmative*, becauſe the middle Term which is the Subject of the Major, is its predicate. Now the Subject of the Major is not, *Whatever has Parts*, but whatever has no parts. And ſo the Sence of the Minor is, *Our Soul is a thing which has no parts*, which is an Affirmative Propoſition of a Negative Predicate.

The ſame perſons prove thattheſe Syllogiſms are concluding by theſe Examples.

John *is not rational.*
Therefore John *is not a Man.*
No Animal ſees,
Therefore *John* does not ſee.

But they ought to conſider that thoſe Example are only *Enthymemes*; and no *Enthymeme* concludes, but by vertue of a Propoſition ſubintellected, and conſequently ought to be reſerv'd in the Mind, tho' not expreſs'd. Now in both theſe Examples, the Propoſition ſubintellected is neceſſarily Affirmative, as thus, *Every Man is reaſonable*, John *is not reaſonable, therefore* John *is no Man*; *and every Man is an Animal, no Animal ſees, therefore no Man ſees.* So that it cannot be ſaid theſe Syllogiſms are purely Negative: and by Conſequence *Enthymemes* which never conclude but becauſe they incloſe the whole Syllogiſms in the Mind of the Argumentator, cannot be brought as an example to ſhew that ſome Silogiſms purely Negative, truly conclude.

CHAP. X.

A General Principle by the help of which, without any other Reduction to Figures and Modes the truth or falſhood of all Syllogiſms may be known.

WE have ſeen how to judg of Complex'd Syllogiſms whether concluſive or defective; by reducing 'em to the forms of common Sillogiſms, and examining 'em by the common rules. But as it is not likely that our underſtanding ſhould ſtand in need of that Reduction, to judge of the force of Syllogiſms, ſo we bethought our ſelves, that there muſt be ſome more General Rules, upon which the Common Rules depend, by which an eaſie judgment may be given of the Truth or falſhood of all manner of Syllogiſms. And this is that which came into our Thoughts.

When a Propoſition, the truth of which is not ſo clear, is offerr'd to be prov'd, there ſeems only this to be done, to find out a propoſition more known which confirms that, which for that reaſon may be call'd the *Containing Propoſition.*

But becauſe the Firſt cannot contain the Second expreſly and in ſo many words, for ſo it would not be a different thing and conſequently prove uſeleſs for the delucidation of the Firſt, it is neceſſary that there ſhould be another Propoſition, to ſhow that the *Containing Propoſition* contains in effect that other which is to be prov'd, and this Laſt may be an *Applicative Propoſition.* In

In Affirmative Syllogiſms it is not much material many times which is call'd the *Containing Propoſition*, becauſe that both in ſome manner contain the Concluding Propoſition, and for that they mutually ſerve to ſhew that this is contain'd in the other.

As for example, if I queſtion whether a vicious man be happy, and argue thus.

Every Slave to his Paſſion is unhappy,
Every vicious man is a ſlave to his Paſſions,
Therefore every vicious man is unhappy.

Now take either of the Propoſitions and you may ſay that the one contains the Concluſion, and the other ſhews it. For the Major contains it, in regard that *a ſlave to his Paſſions* comprehends *vicious*; that is, that *vicious* is enclos'd in it's extent, and is one of it's Subjects, as the Minor makes manifeſt.

Nevertheleſs, when the Major is moſt commonly univerſal it is uſually look'd upon as the *Containing Propoſition*, and the Minor as the *Applicative*.

As for Negative Syllogiſms, whereas there is in them but one Negative Propoſition, and that the Negative is properly encloſed in the Negation only, it ſeems that the negative Propoſition ought always to be taken for the *Container*, and the Affirmative for the Applicative; whether the Negative be the Major, as in *Celarent*, *ferio*, *Ceſare*, *feſtino*; or whether it be the Minor as in *Cameſtres* and *Baroco*: as if I were to prove by this Argument, that no covetous man is happy.

Every happy man is content,
No covetous man is content,
Therefore no covetous man is happy.

[:

It is more natural to ſay that the Minor, which is Negative contains the Concluſion which is alſo Negative, and that the Major demonſtrates it. For the Minor, *no Covetous man is contented*, totally ſeperating content from covetous, ſeparates alſo happy; ſince according to the *Major*, happy is totally excluded in the extent of Content.

It is no difficult thing to ſhew, that all the Rules which we have given ſerve only to ſhew that the Concluſion is contain'd in one of the firſt Propoſitions, and that the other makes the thing clear. And that Arguments are not defective but when they fail to obſerve that Rule, and always true when they do obſerve it. For all theſe Rules are reduc'd to two princple ones, which are the foundation of the reſt; The one, *that no Term can be more general in the Concluſion then in the Premiſes.* Now this viſibly depends upon this general Principle, that the Premiſſes ought to contain the Concluſion. Which could never be, if the ſame Term being in the Premiſes and in the Concluſion, there ſhould be leſs extent in the Premiſes then in the Concluſion. For the leſs General never contains the more general, *ſome men*, never contains *All-men.*

The other General Rule is, *That the Middle Term ought to be taken at leaſt once Univerſally*, which depends upon this Principle, *That the Concluſion ought to be contain'd in the Premiſes.* For ſuppoſe we were to prove, *That ſome one friend of God is poor*; I ſay, we ſhall never evidently find, that this Propoſition contains the Concluſion, but by another Propoſition, where the middle Term which is *Holy*, may be taken univerſally. For it is viſible, that to the end this Propoſition, *Some Saint*

is

is poor, may contain the Concluſion, *ſome Friend of God is poor*, it is requiſite, and it ſuffices that the Term ſome *Holy Perſon*, contains the Term ſome friend of God. For as to the other Term both Propoſitions have it in common. But now the particular Term has no determin'd Extenſion; nor does it certainly contain any thing beſides what it encloſes within it's comprehenſion and *Idea*.

And by conſequence, to the end the Term, ſome *Holy Perſon*, may contain the Term, *ſome friend of God*, it is requiſite that *friend of God* be contain'd within the comprehenſion of the *Idea* of *Holy*.

Now whatever is contain'd in the comprehenſion of an *Idea*, may be univerſally affirm'd of it. Whatever is contain'd in the comprehenſion of the Idea of a *Triangle* may be affirm'd of all Triangles. Whatever is contain'd in the Idea of *Man* may be affirm'd of *all Men*. And by conſequence, to the end that *friend of God* may be enclos'd in the Idea of *Holy*, it is requiſite that *every holy Perſon be a friend of God*. Whence it follows that this Concluſion, *ſome friend of God is poor*, cannot be contain'd in this Propoſition, *ſome holy Man is poor*, when the middle Term *Holy* is taken particularly, but by vertue of a Propoſition where it may be taken Univerſally, ſince it ought to ſhew that *friend of God* is contain'd in the comprehenſion of the *Idea* of *Holy*. Which it cannot ſhew but by affirming *friend of God*, of Holy, taken univerſally thus, *every holy perſon is a friend of God*. And by conſequence none of the Premiſes would contain the Concluſion, if the middle Term being taken particularly in one of the Propoſitions, where not taken univerſally in the other.

CHAP. XI.

The Application of this General Principle to ſeveral Syllogiſms which ſeem to be intricate.

KNowing then by what we have already ſaid in the Second Part, the meaning of comprehenſion and extent of Terms, by which it may be judg'd whether one propoſition does or does not contain another, we may judg of the truth or invalidity of all Syllogiſms, without conſidering whether it be ſimple or compos'd, complex or incomplex, and without any regard to Figures or Modes, by this General Principle. Some one of the Propoſitions ought to contain the Concluſion and the other to demonſtrate that which is contain'd.

1 *Syllogiſm.*

I queſtion whether this Syllogiſm be true.

It is the duty of a Chriſtian, not to praiſe thoſe that commit wicked Actions.

But they who fight Duels commit a wicked Action

Therefore it is the duty of a Chriſtian not to commend thoſe that fight Duels.

I ſhould looſe time in examining to what Mode or Figure this Syllogiſm ought to be reduc'd. And therefore it is ſufficient to conſider whether the Concluſion be contain'd in either of the two firſt Propoſitions; and whether the other makes it out.

Now

Now I find that the Major propoſition has not any thing different from the concluſion, but only there is in the one, *they who commit wicked Actions*, and in the other, *they who fight Duels*.

Now that Propoſition wherein there is *committing wicked Actions*, will contain that wherin there is *fighting Duels*; provided that *Committing wicked Actions*, contains fighting Duels.

Now 'tis viſible by the Sence, that the Term, *they who Commit wicked Actions*, is taken Univerſally, and that it extends to all that commits wicked acts of what ſort ſoever. So that the Minor, *They who fight Duels commit a wicked Action*, manifeſting that *fighting Duels* is contain'd under the Term of *Committing wicked Actions*, it evidences alſo that the firſt Propoſition contains the Concluſion.

2. EXAMPLE.

I queſtion the Truth of this Syllogiſm.

The Goſpel promiſes Salvation to Chriſtians,
There are wicked Perſons who are Chriſtians,
Therefore the Goſpel promiſes Salvation to wicked Perſons.

To judg of this I am only to conſider, that the Major cannot contain the Concluſion, if the word *Chriſtians* be not generally taken for all Chriſtians, and not for ſome Chriſtians only. For if the Goſpel promiſes Salvation only to ſome Chriſtians, it does not follow that it promiſes Salvation to the Wicked, who profeſs Chriſtianity: becauſe ſuch Chriſtians may not be of the number of thoſe Chriſtians to whom the Goſpel promiſes Salvation. Therefore this Argument concludes well; but the

Major is falſe, if the word *Chriſtians* be taken for all Chriſtians. And it concludes ill, if it be taken only for *ſome Chriſtians*; for then the firſt Propoſition will not contain the Concluſion.

But to know whether it ought to be taken Univerſally, that muſt be examined by another Rule which we have given in the ſecond Part, *as to excluſive Acts whatever is affirm'd of 'em is taken Univerſally, when it is expreſſed indefinitely*: But now tho' this *Term*, *they that commit wicked acts*, in the firſt example, and *Chriſtians* in the ſecond be parts of the Predicates, yet they ſupply the place of Subjects, of which the other parts of the ſame Predicates are affirm'd; for they are the parts of which the affirmation is made, that *they are not to be praiſed*, that *they are promiſed Salvation*. And by conſequence not being reſtrain'd, they are to be taken Univerſally. And ſo both Syllogiſms are true in Form. But the Major of the ſecond example is falſe, if only they are underſtood by the word Chriſtians who live conformably to the Goſpel; becauſe no wicked perſons live conformably to the Goſpel.

3. EXAMPLE.

By the ſame principle it is eaſy to ſee that this Syllogiſm is invalid.

The Law of God commands us to obey ſecular Magiſtrates.

Therefore the Law of God does not command us to obey Biſhops.

For here neither of the Premiſes contains the Concluſion. For it does not follow that when the Law of God commands one thing, it does not command

command another. And thus the Minor ſhews that Biſhops are not comprehended under the Term *Secular Magiſtrates*, and that the command to honour *Magiſtrates* does not comprehend *Biſhops*. Nor does the Major ſay that God has made no other command then that, as it ought to have done, that by the Minor it might have been apparent, that it comprehended the Concluſion. For which reaſon the following Syllogiſm is true.

4. EXAMPLE.

Chriſtianity does not oblige Servants to obey their Maſters but in things which are agreeable to the Law of God: but procuring of Harlots is contrary to the Law of God.

Therefore Chriſtianity does not oblige Servants to obey their Maſters in procuring of Harlots.

For the Major contains the Concluſion, ſince by the Minor procuring of Harlots is included in the number of thoſe things which are contrary to the Law of God, and that the Major being excluſive, is the ſame as if it had been ſaid, *The Law of God does not oblige Servants in things which are contrary to the Law of God.*

5. *Example.*

This Sophiſm alſo may be detected by the help of this General Principle.

He that ſays you are an Animal ſays true.

He that ſays you are a Gooſe, ſays you are an Animal

Therefore he that ſays you are a Gooſe, ſays true.

For it is sufficient to say, that neither of the two first propositions contains the Conclusion. For if the Major contain'd it, not being different from the Conclusion, but only in the word *Anima* in the Major, and *Goose* in the Conclusion; of necessity, Animal should have comprehended Goose; But *Animal* is not taken particularly in the major, because it is the Predicate of the Incident affirmative Proposition, *you are an Animal*; and consequently it cannot contain Goose but in its Comprehention. For proof of which, *Animal* should be taken universally in the Minor by affirming Goose of every Animal, which is neither done nor can be done, seeing that Animal is taken particularly in the Minor, being as well there as in the Major, the predicate of the Incident Proposition *you are an Animal*.

In the same manner may be discover'd that ancient Sophism quoted by St. *Austin*.

You are not what I am.
I am a Man.
Therefore you are no Man.

This Argument is Invalid by the Rules of Figures, as being of the first; and for that the first Proposition which is here the Minor is a Negative. But it is sufficient to say that the Conclusion is not contain'd in the first Proposition, nor does the second, (*I am a Man*) make it out to be so. For the Conclusion being Negative, the Term man is here taken Universally, and so cannot be contain'd in the *Term (what I am)* because he that so argues is not *all Men*, but *some one Man*. Which appears from hence for that in the *Applicative* proposition, he only says *I am a Man*; where the Term of *Man* is restrain'd to one particular Signification, because it

it is the Predicate of an Affirmative Propoſition. Now the General is never contain'd in the particular.

CHAP. XII.

Of Coujunctive Syllogiſms.

Syllogiſms Conjunctive are not all thoſe Syllogiſms, whoſe propoſitions are Conjunctive or Compos'd, but thoſe whoſe Major is ſo compos'd that it includes the whole Concluſion. They may be reduc'd to three ſorts *Conditional*, *Disjunctive*, and *Copulative*.

Of Syllogiſms Conditional.

Syllogiſms Conditional are thoſe, where the Major is a Conditional Propoſition that contains the whole Concluſion.

If there be a God, he is to be Belov'd.
But there is a God.
Therefore he is to be Belov'd.

The Major conſiſts of two parts, the firſt is call'd the Antecedent, *If there be a God*; the ſecond is called the Concluſion; *he ought to be Belov'd.*

This Syllogiſm may be of two ſorts, becauſe that from the ſame Major may be form'd two Concluſions.

The firſt is, when having affirm'd the conſequent of the Major, the Antecedent is affirm'd in the Minor, according to this Rnle, *the Antecedent being granted, the Conſequent is granted.*

If matter cannot move of it ſelf, it muſt have its firſt motion from God.

But matter cannot move of it ſelf.

Therefore it muſt have it's firſt Motion from God.

The ſecond is, when the Conſequent is taken away, to take away the Antecedent according to the Rule; take away the conſequent, and the Antecedent is taken away.

If any one of the Elect Periſh, God is deceiv'd.

But God is not deceiv'd.

Therefore not any one of the Elect periſh.

This was the Argument of St. *Auſtin*; *If any one of theſe periſh, God is deceived; but none periſh, becauſe God is not deceiv'd.*

Theſe conditional Arguments are falſe two manner of ways. Firſt when the major includes a propoſition quite from the purpoſe, and whoſe conſequence is contrary to all Rules; as when I conclude a general from a particular, as in ſaying, if we deceive our ſelves in any thing, we deceive our ſelves in all things.

But this falſhood of theſe Syllogiſms in the major relates rather to the matter then the Form. So that they are never look'd upon as vicious in Form, as when there is a falſe concluſion drawn from a major true or falſe, conſonant or contrary to Reaſon, which is done two ways.

Firſt when the Antecedent is infer'd from the conſequent in this manner.

If the Chineſes are Mahumetans they are Infidels.

But they are Infidels.

Therefore they are Mahumetans.

The ſecond ſort of falſe conditional Arguments, is when from the denial of the Antecedent, the denial

nial of the Conſequent is inferr'd; as in the example.

If the Chineſes are Mahumetans, they are Infidels.
But they are not Mahumetans,
Therefore they are not Infidels.

Nevertheleſs there are ſome of theſe conditional Arguments which ſeem to have this laſt defect, which are nevertheleſs very true, becauſe there is an excluſion ſubintellected in the major, tho not expreſs'd, as for example. *Cicero* having made a Law againſt thoſe that bought voices, and *Murena* being accuſed for breach of that Law, *Cicero* ſpeaks for him, and thus argues in his own Juſtification, being reproach'd by *Cato* for pleading againſt his own Law. *Indeed if I defended the Bribery given, and defended the Fact as well done, I ſhould do wickedly, tho' another had made the Law; but when I defend nothing committed againſt the Law, Why ſhould the making of a Law hinder my defence.*

This Argument is like that of a great Blaſphemer, who to excuſe himſelf thus argued. *If I denied there was a God I ſhould be a very wicked Perſon; but tho' I Blaſpheme, I do not deny there is a God, therefore I am no wicked Perſon.* This Argument is Invalid, becauſe there are other Sins beſides Atheiſm that render a man Wicked. But that which makes *Cicero*'s Argument good, (tho' propoſed by *Ramus* as an Argument of a falſe Syllogiſm) is this, that it encloſes an excluſive particle in the Sence, and which might be more diſtinctly expreſs'd under theſe Terms.

It

It would be only then that they could reproach me for having acted against my own Law, ſhould I confeſs that Murena had purchaſ'd voices, and yet for all that I ſhould juſtifie the Act.

But I aſſert that he was not guilty of purchaſing voices,

And therefore I do nothing againſt my own Law.

The ſame thing may be ſaid of that Argument of *Venus* ſpeaking to *Jupiter* in *Virgil.*

Si ſine pace tua, atq; e invito numine Troes
Italiam petiere, luant peccata, neque illos
Juveris auxilio: Sin tot Reſponſa ſequuti
Quæ ſuperi manesque dabant, cur nunc tua quiſquam
Flectere juſſa poteſt, aut cur nova condere fata?

Which Argument may be expreſs'd in theſe Terms.

If the Trojans *adventur'd into* Italy *againſt the good will of the Gods, they deſerv'd puniſhment.*

But they did not adventure againſt the good will of the Gods,

Therefore they do not deſerve puniſhment.

Here therefore is ſomething to be ſupply'd, otherwiſe it would be like to this that concludes nothing.

If Judas *had enter'd into the Apoſtleſhip without being call'd he ought to to have been rejected of God.*

But he did not enter into it uncall'd;

Therefore he ought not to be rejected of God.

But that which makes the Argument of *Venus* to be true is this, that the *major* is to be conſider'd as excluſive in the Sence; as if it had been thus expreſs'd.

Then only had the Trojans *to have been puniſh'd and have*

have been thought unworthy of the Gods, if they had adventur'd into Italy *againſt their wills.*

But they did not adventure againſt their wills,

Therefore, &c.

Or it may be ſaid, which is the ſame thing that thoſe affirmative words *ſine pace tua,* &c. include this negative in Sence.

If the Trojans *did not adventure into* Italy *but by order of the Gods, it is not juſt that the Gods ſhould abandon 'em.*

But they did not adventure 'em, but by order of the Gods.

Therefore, &c.

Of Syllogiſms disjunctive.

Disjunctive Syllogiſms are thoſe, whoſe firſt propoſition is disjunctive; that is, whoſe parts are united by the word *Or*, like that of *Cicero.*

They who kill'd Ceſar *are Parricides, or defenders of the public Liberty*

But they are not Parricides

Therefore they are defenders of the publick Liberty.

Of theſe Syllogiſms there are two Sorts: the firſt when one part is taken away to preſerve the other, as in the foregoing Syllogiſm or this that follows

All wicked people ought to be puniſh'd either in this world or the other;

But there are ſome wicked people that are not puniſh'd in this world,

Therefore they ſhall be in the other.

Sometimes there are three members in Syllogiſms of this Sort; and then two members are to be taken

ken away to preſerve one. As in that Argument of S. *Auſtin* in his Book of Lying.

Either we muſt believe good men, or we muſt believe thoſe who we believe ought ſometimes to lie. Or we muſt not believe that good men do ſometimes lye.

The firſt is pernicious, the ſecond fooliſh: it remains then that good men never lie.

The ſecond Sort, though leſs natural, is when we admit one of the parts to take away the other.

St. Bernard *teſtifying that God had confirm'd by his Miracles the preaching of his Croſs, was either a holy Man, or an Impoſtor.*

But he was a holy Man,

Therefore he was no Impoſtor.

The disjunctive Syllogiſms are not falſe, but only in the falſity of the *major*, wherein the diſtinction is not exact, there being a middle Term between two oppoſite members: As if I ſhould ſay,

We are to obey Princes in what they command contrary to the Law of God or revolt from 'em,

But we are not to obey 'em, in what is contrary to the Law of God,

Therefore we muſt revolt from 'em.

Or,

We muſt not revolt from 'em,

Therefore we muſt obey 'em in what they command contrary to the Law of God.

Both theſe Syllygiſms are falſe, becauſe in the disjunctions there is a medium that intervenes which has been obſerv'd by the Chriſtians, which is to ſuffer thoſe things patiently, rather then do any thing contrary to the Law of God, and yet not revolt from their Princes.

These false disjunctions are in part the common Springs whence arise all the false arguments among men.

Of Copulative Syllogisms.

These Syllogisms are but of one Sort, when in the proposition Copulative and Negative, the one part is confirm'd, the other rejected.

No man can be both together a Servant of God, and an Idolizer of his money,
But a covetous man is an Idolizer of his money,
Therefore he is not a Servant of God.

This sort of Syllogism does not necessarily conclude, when one part is taken away to fix the other, as may be seen by this Argument, drawn from the same proposition.

No man can be at the same time a Servant of God, and an Idolizer of his money,
But the prodigal are no Idolizers of their money,
Therefore they are Servants of God.

CHAP. XIII.

Of Syllogisms whose Conclusions are conditional.

WE have seen that a perfect Syllogism cannot have less then three Propositions. But this is only true when they conclude absolutely, not hypothetically. For so the conditional proposition

ſition may include one of the premiſes beſides the concluſion, and ſometimes both.

For example, if I would prove that the Moon is a rough uneven Body, and not poliſh'd like a mirrour, as *Ariſtotle* thought it to be, I cannot abſolutely conclude but by the help of three Propoſitions.

Every Body that reflects it's light from all parts is rugged and uneven

The moon reflects her light from all parts

Therefore the moon is a rugged and uneven Body.

But to conclude conditionally, I need no more then two Propoſitions in this manner.

Every Body that reflects its light from all parts is rugged and uneven

Therefore if the moon reflect her light from all parts ſhe is a rugged and uneven Body.

And I may include this Argument in one ſingle propoſition thus.

If every Body that reflects her light from all parts be rugged and uneven, and that the moon reflects her light from all parts, we muſt acknowledg that ſhe is no poliſh'd Body, but rugged and uneven.

Or I may annex one propoſition to another by the cauſal particles, *becauſe*, or *ſince that*, as thus,

If every true friend ought to be ready to lay down his life for his friend,

There are very few true friends, becauſe,

Very few friends arrive at that degree of friendſhip.

This ſort of arguing is very common and very neat; and this is that which ſhews us how vainly they imagine that there are no other arguments, but where they ſee three propoſitions ſeparated and rang'd as in the Schools: For certain it is, that this pro-

Propoſition alone contains this Syllogiſm entire.

Every true friend ought to lay down his life for his friend,

But there are few people who are ready to lay down their lives for their friends,

Therefore there are few true friends.

All the difference that there is, between abſolute Syllogiſms and thoſe where the Concluſion is included with one of the premiſes, in a conditional propoſition, is this, that the former cannot be entirely granted, unleſs that preſently follow that was to be prov'd; whereas Syllogiſms of the ſecond ſort may be entirely granted, and yet the diſputant ſhall gain no advantage all the while. For he is ſtill to prove, that the condition be true, upon which depends the conſequence allow'd him.

So that theſe Arguments are indeed no more then preparations to an abſolute Concluſion; but they are very proper for that purpoſe; and we muſt confeſs that theſe ways of arguing are very ordinary and natural; and that they have this advantage, that being more remote from the air of the Schools, they are therefore the more graceful to other men.

Beſides we may conclude from Syllogiſms of this nature in all ſorts of Figures and Moods, and ſo they need no other Rules beſide the Rules of the ſeveral Figures.

Only we are to obſerve that the conditional concluſion containing one of the premiſes beſides the concluſion, is ſometimes the *major* and ſometimes the *minor*.

Which we ſhall find by the Examples of moſt conditional concluſions drawn from two general maxims,

xims, the one Affirmative the other Negative; whether the affirmative be already prov'd or granted.

All ſence of pain is a Thought.

From when it is concluded affirmatively,

1. *Therefore if all Beaſts are ſenſible of pain,*
   All Beaſts think. Barbara.
2. *Therefore if ſome Plants are ſenſible of pain,*
   Some Plants think. Darii
3. *Therefore if all thought be an action of the mind,*
   All ſenſibility of pain is an action of the mind,
   Barbara
4. *Therefore if all ſenſe of pain be an evil,*
   Some thoughts are evils. Darapti.
5. *Therefore if the ſence of pain be in the hand*
   (*which is burnt*
   There is ſome thought in the hand which is burnt
   (Diſames

Negatively.

6. *Therefore if no thought be in the body,*
   No ſence of pain is in the body. Celarent
7. *Therefore if no beaſt thinks,*
   No beaſt feels pain. Cameſtres
8. *Therefore, if ſome part of man does not think*
   Some part of man does not feel pain. Baroco
9. *Therefore if no motion of matter be a thought*
   No ſence of pain is motion of matter. Ceſare
10. *Therefore if no ſentiment of pain be delightful.*
    Some thoughts are not delightful. Felapton
11. *Therefore if ſome ſentiment of pain be not volun-*
    Some thoughts are not voluntary. Bocardo (*tary,*
    Some

Some other conditional concluſions might be drawn from this general Maxim. *All Senſibilty of pain is a thought*; but not being very natural, we omit 'em. Of thoſe propoſitions which we have produc'd; there are ſome that contain the Minor beſides the Concluſion, *viz.* the 1. 2. 7. and 8. and others the Major beſides the concluſion, *viz.* the 3, 4, 5, 6, 9, 10, and 12.

We may alſo obſerve ſeveral conditional Concluſions that may be drawn from a general Negative propoſition. For Example,

No matter thinks.

1. *Therefore if every Soul of a Beaſt be matter,*
   No Soul of a Beaſt thinks. Celarent.
2. *Therefore if ſome part of a Man be matter, ſome part of a Man does not think.* Ferio.
3. *Therefore if our Soul think:*
   Our Soul is not Matter. Ceſare.
4. *Therefore if ſome part of a Man thinks:*
   Some part of a Man is not matter. Feſtino.
5. *Therefore if all that is ſenſible of Pain thinks:*
   No matter is ſenſible of Pain. Cameſtres.
6. *Therefore if all matter be a Subſtance:*
   Some Subſtance does not think. Felapton.
7. *Therefore if ſome matter be the cauſe of ſeveral effects that appear miraculous, whatever is the cauſe of miraculous effects does not think.* Feriſon.

Of theſe Conditionals there are but five which include the Major beſides the Concluſion; all the reſt include the Minor.

The chiefeſt uſe of theſe Arguments, is to oblige him with whom we diſpute to acknowledg the truth of a Conſequence, which he may grant without giving his conſent farther, becauſe it is

only propounded conditionally, and ſeparated from the material Truth, as I may ſo ſay, of what it contains. And by this means the Opponent is diſpos'd the more eaſily to admit the abſolute concluſion drawn from thence, either granting the Antecedent to gain the Conſequent, or barring the Conſequent to take away the Antecedent.

Thus if any one grant me, that no matter thinks, I will conclude, that if the Soul of a Beaſt thinks, it muſt be diſtinct from matter.

And as he cannot deny me this conditional concluſion, I may draw from thence either the one or the other of theſe two abſolute conſequences.

But the Soul of a Beaſt thinks.
Therefore it is diſtinct from matter.

Or contrary,

But the Soul of a Beaſt is not diſtinct from matter,
Therefore it does not think.

From what has been ſaid it appears that there ought to be four Propoſitions, to the end, theſe ſorts of Arguments may be perfect, and prove ſomething abſolutely. And yet they are not to be plac'd in the number of Sillogiſms, which are call'd compos'd, becauſe theſe four Propoſitious contain nothing more in Sence, then the three Propoſitions of a common Syllogiſm.

No matter thinks.
Every Soul of a Beaſt is matter.
Therefore no Soul of a Beaſt thinks.

CHAP.

CHAP. XIV.

Of Enthymemes, and Enthymematick Sentences.

WE have already ſaid, that an Enthymeme is a Sillogiſm perfect in the mind, but imperfect in the expreſſion: becauſe ſome one of the propoſitions is ſuppreſt, as being too clear and common; and eaſily ſuppli'd by the underſtanding of thoſe with whom we diſcourſe.

This manner of argument is common in diſcourſe and writing, that it is a rare thing to find all the Propoſitions expreſs'd, as being ſo evident that they may be eaſily ſuppos'd; beſides that it is the pride of humane wit to chuſe rather to have ſomething left that may be ſuppli'd, rather then to be thought to want Inſtruction in every thing.

So that this ſuppreſſion flatters the vanity of thoſe with whom we diſcourſe, while we remit ſomething to their own Underſtanding, and by abridging our diſcourſes, render it more ſmart and efficacious. For example, if from this verſe of *Medea* in *Ovid*, which contains a moſt elegant Enthimeme.

Servare potui, perdere an poſſim rogas?

Any one ſhould make an argument in Form, after this manner.

He that can preſerve thee, can deſtroy thee,
But I can preſerve thee,
Therefore I can deſtroy thee.

He had certainly diſpoil'd it of all its Elegancy, and the reaſon of it is, becauſe as it is one of the principal Beauties of diſcourſe to be full of Sence, and to give an occcaſion to the Underſtanding to form a Thought more extenſive then the Expreſſion, ſo it is on the contrary, one of the greateſt deficiencies to be void of Senſe, and to ſpend multiplicity of words upon a few thoughts; which is almoſt inevitable in Philoſophical Syllogiſms. For the motions of the Mind being more ſwift then thoſe of the Tongue, and one of the Propoſitions ſufficing for the underſtanding of two; the expreſſion of the ſecond becomes unprofitable, not containing any new Sence. And this is that which renders theſe ſorts of arguments ſo rare in the converſation of men; becauſe without making any Reflexions, we preſently quit that which is tedious and troubleſome, and betake our ſelves to what is preciſely neceſſary to be underſtood,

Enthymemes then are the uſual way of reaſoning moſt common among Men, ſuppreſſing the propoſition which they judg may be eaſily ſuppli'd; and this propoſition is ſometimes the major, ſometimes the minor, and ſometimes the concluſion: altho' then it be not properly call'd an Enthymeme, when the whole force of the argument is included in the two firſt Propoſitions.

It alſo happens ſometimes, that the two propoſitions of the Enthymeme are included in one propoſition, which for that reaſon *Ariſtotle* calls an *Enthymematick Sentence*, of which he gives this Example.

Ἀθάνατος

Ἀθάνατον ὀργὴν μὴ φύλασσε θνητὸς ὤν

Immortal anger bear not, being Mortal: which whole Argument would run thus. *He that is Mortal ought not to bear Immortal hatred; but you are Mortal, Therefore bear not Immortal hatred.*

CHAP. XV.

Of Syllogiſms compos'd of more then three Propoſitions.

WE have already intimated, that Arguments compos'd of more then three Propoſitions are called *Sorites*.

They may be diſtinguiſhed into three ſorts. 1. Into gradations, of which we need ſay no more then what has been already ſaid, in the firſt Chapter, third Part.

2. Into *Dilemmas* of which we ſhall treat in the following Chapter.

3. Into thoſe which the *Greeks* call *Epicherema's*, which comprehend the Proofs either of one of the two firſt Propoſitions, or of both together. And of theſe we ſhall diſcourſe in this Chapter.

Now in regard we are bound to ſuppreſs in diſcourſe certain Propoſitions, which are ſo clear that nothing can be clearer; it is alſo ſometimes requiſite to advance uncertain and doubtful ones, and to join proofs to 'em at the ſame time, to prevent the Im-

Patience of those we dispute with, who are offended sometimes when we go about to perswade 'em by reasons which to them appear false and doubtful; for though the quarrel be easily afterwards reconcil'd, yet is it dangerous to provoke the Minds of the Auditors, though it be for never so little awhile. And so it is much better that proofs should immediately follow doubtful questions, then that they should be separated from them. Which separation produces also another Inconvenience, that we are bound to repeat the proposition which we endeavour to prove. And therefore whereas it is the method of the Schools to propound the Argument entire, and afterwards to prove the Proposition which receives the difficulty, that which is usual in ordinary discourse, is to join to doubtful propositions the Proofs that confirm 'em; which makes a sort of Argument compos'd of several propositions. For to the Major are the proofs of the Major join'd, to the Minor those of the Minor, and then comes the Conclusion.

Thus the whole Oration for *Milo* may be reduc'd into a compound Argument, of which the Major is, that it is lawful to kill him that lies in wait for my Life. The proofs of this Argument are drawn from the Law of Nature, the Law of Nations and Examples. The Minor is that *Clodius* laid wait for *Milo's* Life. And the proofs of the Minor are the the Equipage of *Clodius*, his train *&c.* The Conclusion is, that it was therefore lawful for *Milo* to kill him.

The proof of Original Sin is deduc'd from the miseries which Infants indure, according to Dialectical method in this manner.

Children

Children could not be born miſerable, but by the puniſhment of ſome Sin which they deriv'd from their Infancy. But they are miſerable, therefore it is by reaſon of original Sin. Now the Major and the Minor are to be proved in their turns. The Major by this disjunctive argument, the miſeries of Infants cannot proceed but from one of theſe four cauſes, firſt from Sins that preceded this Life. 2. Or from the Inability of God who had not power to protect 'em. 3. Or from the Injuſtice of God, who ſuffers them to be miſerable without a cauſe. 4. Or from original Sin. Now it is Impious to affirm from the three firſt Cauſes, and therefore they muſt be deriv'd from the fourth, which is original Sin.

The Minor that Infants are miſerable, is to be prov'd by the Catalogue of their miſeries.

But it is eaſie to ſee with what Elegancy and Efficacy St. *Auſtin* has propounded the proof of original Sin, which he has encloſed in an Argument compoſed after this Form.

" Conſider the number and the greatneſs of the " miſeries, with which Children are overwhelm'd, " and how the firſt years of their Lives are full of " vanity, ſufferings, deluſions and fears. After- " wards as they grow up and begin to be of years " to ſerve God, error aſſails them to ſeduce their " Minds. Labour and Pain attempts 'em to wea- " ken their Bodies. Concupiſcence tempts 'em to en- " flame their deſires, ſadneſs tempts 'em to deſpair, " Pride tempts 'em to Ambition; and indeed who " in few words is able to expreſs the manifold words " and pains that render ponderous the Yoke of " the Children of *Adam*. The Evidence of theſe " miſeries has forc'd the *Pagan* Philoſophers, who

" neither knew nor thought any thing of the Sin of
" our first Parent, to say that we were only born to
" suffer the punishment of some crimes which they
" had committed in another Life, and in like manner
" that our Souls were conjoin'd to corruptible Bodies,
" according to that sort of punishment, which the
" Tyrants of *Tuscany* caused those to suffer whom
" they ty'd alive to dead Bodies; but that opinion
" that the Soul is join'd to the Body for the punish-
" ment of crimes preceding in another Life is reject-
" ed by the Apostle. What remains then but that ei-
" ther the Injustice or the Inability of God, or the
" punishment of original Sin, must be the cause
" of so many dismal miseries? But because God is
" neither Just nor Impotent, there only remains
" that which you are unwilling to acknowledg;
" but you must acknowledg it whether you will or
" no; that this same heavy yoke which the Sons of *A-*
" *dam* are oblig'd to bear, from the time that they are
" deliver'd out of their Mothers Womb, till the day
" that they enter into the womb of their common
" Mother, the Earth, could never have been, had
" they not deserved it for the Sin which they derive
" from their Original.

CHAP.

CHAP. XVI.

WE may define a *Dilemma*, a compos'd Argument, where after the diviſion of the whole into parts, we conclude negatively or affirmatively, of the whole that which is concluded of every part.

I ſay, *that which is concluded of every part*, and not that which is only affirm'd. For that is only properly called a *Dilemma*, when that which is ſaid of every part is ſuſtain'd by its particular Reaſons.

For example being to prove, *that a Man cannot be happy in this World*, it may be done by this *Dilemma*.

We cannot live in this World, but we muſt either abandon our ſelves to our Paſſions, or war againſt 'em.

If we abandon our ſelves to 'em, we are miſerable; for it renders us Ignominious, nor are we ever ſatisfied.

If we war againſt 'em, we are miſerable; in regard there is nothing more painful and irkſome then that inteſtin war which a Man is always oblig'd to make againſt himſelf.

Therefore he cannot have any true Happineſs in this Life.

If we would prove *that ſuch Biſhops who do not labour for the Salvation of Souls committed to their Charge, are inexcuſable before God*, it may be done by this *Dilemma*. *Either*

Either they are capable of that charge, or they are uncapable;

If they are capable, they are inexcuſeable for not employing their parts in the execution of their charge.

If they are uncapable, they are inexcuſeable for undertaking ſo important a charge which they are not able to undergo.

And by conſequence, which way ſoever you take it, they are inexcuſable before God, if they do not attend with dilligence the ſalvation of the Souls that are committed to their charge.

But there are ſome obſervations to be made upon theſe ſorts of Arguments.

The Firſt is, that all the Propoſitions are not always expreſs'd: For example, the *Dilemma* which we have propos'd was comprehended in a few words in the Oration of the Lord *Charles* at the entrance of a certain perſon into the Provincial Councils. *If you are uncapable of ſo great a charge, why ſo ambitious? If fit for it, why ſo negligent?*

Thus there are many things ſubintellected in that memorable *Dilemma* by which an ancient Philoſopher prov'd. That no man ought to buſie himſelf in public Affairs.

If any perſon act well, he will offend men; if he act ill, he will offend the Gods: therefore he ought not to meddle with the public.

In the ſame manner another prov'd that it was not expedient to marry.

If the woman marry's be lovely, ſhe will cauſe jealouſies, if ſhe be deformed, ſhe will never delight him: therefore it is not expedient to marry.

For in both theſe Dilemmas, the propoſition which

which ought to cauſe the Partition is ſubintellected. And this is that which is very uſual; becauſe it may be eaſily ſupply'd as being mark'd out by the particular propoſitions that argue each part.

Moreover to the end the Concluſion may be included in the premiſes, ſomething general is every where to be ſupply'd, which may agree with the whole: as in the former example.

If he act well, he will offend men, which is ill endur'd.
If he act ill, he will offend God; which is equally pernicious.
Therefore it is a thing every way troubleſome to meddle in State Affairs.

This advice is very important, to the end a man may make a true judgment of the force of a Dilemma. For the reaſon why this is not concluding is, becauſe it is not a thing ſo troubleſome to offend men, when it cannot be avoided without offending God.

The ſecond Obſervation is, that a Dilemma may be vicious chiefly through two defects. The one is when the disjunctive upon which it is grounded, is erroneous, not comprehending all the members of the whole that is divided.

Thus the Dilemma againſt marriage concludes nothing. For a Wife may be choſen, neither too fair to create a jealouſie, nor deformed to breed a loathing.

For this reaſon that was a moſt erroneous Dilemma which the ancient Philoſophers made uſe of; to perſwade men not to fear death.

Our Soul, ſaid they, *periſhes with the Body, and ſo being void of any more Sence, we ſhall not be obnoxious to any further miſery: Or if the Soul ſurvives*

the

the Body, it will be more happy, then it was in the Body, therefore death is not to be fear'd.

For as *Montaign* has well obſerv'd, it was a great blindneſs not to ſee a third condition between theſe two. Which is, that the Soul ſurviving the Body may be in a ſtate of miſery and torment: Which may be a juſt reaſon for a man to fear death, for fear of falling into that condition.

Another Errour that hinders Dilemma's from being concluſive is, when the particular concluſions of every part are not neceſſary. So it is not of neceſſity, that a beautiful woman ſhould create jealouſie. For ſhe may prove ſo wiſe and ſo vertuous, that her Husband may have no cauſe to miſtruſt her fidelity.

Nor is it of neceſſity that being deformed, ſhe ſhould diſlike her Husband; becauſe ſhe may have thoſe other advantageous qualitys and vertues, wherein a man may take the greateſt delight.

The third Obſervation is. That he who makes uſe of a Dilemma ought to take care, that his argument be not turn'd upon himſelf. Thus *Ariſtotle* teſtifies that he turn'd upon the Philoſopher, who went about to prove that men were not to meddle with State Affairs, his own argument. For ſays he,

If a man govern according to the corrupt laws of men, he ſhall content men.

If he obſerve true juſtice he will content the Gods,

Therefore he ought to intereſt himſelf in public Affairs.

Nevertheleſs this *Turn* is not rational; for we ought not to offend God that we may pleaſe men.

CHAP.

CHAP. XVII.

Of the places, or method to find out Arguments; and how this method is of little uſe?

PLaces of Arguments, ſo call'd by the Rhetoricians and Logicians are certain General Heads, under which may be brought all the proofs which are made uſe of in the various matters of diſcourſe: and that part of Logic which they call *Invention*, is nothing elſe but what they teach concerning theſe places.

Ramus quarrels with *Ariſtotle* and the School-men, becauſe they diſcourſe of places after they have given the rules of arguments; and he affirms againſt 'em, that they ſhould firſt explain what concerns places and Invention before they lay down the rules of argument. *Ramus*'s reaſon is, becauſe matter is firſt to be found out, before we think of diſpoſing it.

But this reaſon is very weak: For though it be very requiſite that matter ſhould be found out for diſpoſition, yet is it not neceſſary to teach how to find out matter, before we know how to diſpoſe it. For to teach the diſpoſition of matter, it ſuffices to have certain general matters to ſerve for examples. Beſides that the underſtanding and common Sence affords matter ſufficient without going a begging to Art or the method of Invention. So that it is true that we ought to have matter ready to apply

to

to the rules of arguments; but that there is any neceſſity to find out this matter by the method of places, is a meer falſity.

We may rather urge the quite contrary, that it is neceſſary to know what an argument or *Syllogiſm* is, before we learn from the doctrine of places to draw out Arguments and *Syllogiſms*. But it may be they will anſwer, that nature alone furniſhes us with a general knowledge of Ratiocination; which is ſufficient to underſtand what is ſaid in the diſcourſes of places.

Therefore they miſpend their time, who anxiouſly trouble themſelves, in what place *Places* are to be handl'd, ſince it is ſuch an indifferent Thing. But perhaps it would be more profitable, whether it be to any purpoſe to diſcourſe of 'em at all.

We know the *Ancients* held this method for a ſacred myſtery; and that *Cicero* prefers it alſo before all other parts of Logic, as it was taught by the Stoics, who took no notice of places. Let us forego, ſaith he, that art which is mute in the finding out of argument, loquacious in judging of 'em, *Quintilian* and all the other *Rhetoricians*, *Ariſtotle* and all the Philoſophers ſing the ſame ſong, ſo that they would almoſt prevail with us to agree with them, were thay not oppos'd by univerſal experience.

We might produce almoſt as many Witneſſes as there are perſons who have run through the uſual courſes of ſtudy, and have learnt from this artificial method to find out proofs, as they are taught in Colledges. For is there one that can truly affirm, that when he was oblig'd to handle any ſubject, that he ever made any Reflexions upon theſe places, or ſought

ſought thoſe reaſons which he wanted from thence? Let 'em conſult all the famous Pleaders and Preachers which are in the World; and all thoſe numbers of Writers and Diſputers, who never are pumpt ſo dry, but that they could ſtill ſay more; I queſtion whether there will one be found that ever ſo much as dreamt of *Places from the Cauſe*, *Places from the Effect*, *Places from the Adjunct* to prove what they deſir'd to perſwade.

Quintilian alſo notwithſtanding the great eſteem which he ſhows for this Art, is oblig'd nevertheleſs to acknowledge that there is no neceſſity, when a man handles any ſubject to go and knock at the door of all theſe *Places* for Proofs and Arguments. *Let the ſtudious of Eloquence mind this alſo, that, when matter of Argument is propos'd, there is no neceſſity to ſearch all the ſeveral places, and as it were to go from door to door to know whether they will anſwer to what we intend to prove.*

True it is that all Arguments may be brought under theſe general Heads and Terms which are call'd *Places*; but their Invention is not to be aſcrib'd to this method. Nature, conſideration of the Subject, and the fore-knowledge of various truths lead us to thoſe probations; and at length Art reduces 'em to certain *Genus*'s. So that we may truly ſay of theſe *Places* what *St. Auſtin* pronounc'd in general concerning Rhetoric. We find, ſaith he, that the Rules of Eloquence are obſerv'd in the Diſcourſes of Eloquent perſons, though whether they know 'em, or know 'em not, they never think of 'em. They practiſe theſe Rules, becauſe they are Eloquent, but they do not make uſe of 'em to attain Eloquence.

We

We naturally walk as the ſame Father obſerves, and in walking, we move regularly with our Bodies But it would be ridiculous for a *Maſter of walking* to pretend to tell us, that the Animal Spirits were to be ſent into certain Nerves; that ſuch Muſcles were to be mov'd; or to teach us, to move ſuch joynts, and to ſet one Leg before another. 'Tis true, Rules might be given for all theſe things: but that theſe actions ſhould ever be perform'd by the help of any rules were ridiculous. So in common diſcourſe all theſe *Places* are made uſe of; nor can any thing be ſaid but what may be referr'd to 'em. But it is not an expreſs Reflexion upon thoſe *Places* that produces our thoughts; ſuch a reflexion ſerving rather to ſtop the Career of Wit, and preventing it from finding out more natural and effectual Reaſons, which are the Ornaments of Diſcourſe.

Virgil in his ninth Book of *Æneads*, after he has repreſented *Euryalus* ſurpriz'd and environ'd by his Enemies who were ready to revenge upon him the death of their Friends, whom *Niſus*, the Friend of *Euryalus* had ſlain, puts theſe words full of paſſion and affection into the mouth of *Niſus*.

Me me, ad ſum qui feci, in me convertite ferrum
O Rutuli, mea fraus omnis; nihil iſta nec auſus,
Nec potuit. Celum hoc & ſidera Conſcia teſtor
Tantum Infelicem nimium dilexit Amicum.

Says *Ramus*, this is an Argument from the efficient cauſe. But we may ſafely ſwear that *Virgil* never dreamt of the *Place from the Efficient Cauſe*, when he made thoſe Verſes. Nor had he ever made 'em, if he had ſtopp'd in ſearch of ſuch a thought in the Efficient Cauſe. Nay it may be rather

ther thought that he not only forgot his Rules and his Places, if ever he had any such knowledg, but was transported beyond himself, when he represented such a Person and such Passions.

And in truth, the little use that has been made of this method of Places from the long while ago, that it was first invented, is an evident sign how little it is to be regarded. For all they can pretend to by this method, is, only to find out several general, common, remote Notions upon every subject, such as the *Lullists* find by the means of their Tables. Now such a copiousness is so far from being advantagious, that there is nothing more hurtful to the Judgment.

Nothing hinders so much the growth of good Seeds as when they are over-grown with Weeds. Nothing renders a Wit more barren in true and solid thoughts then this evil fertility of low and common Notions.

The Wit accustoming it self to that facillity; and never forcing it self to find out proper, particular and natural Reasons, which never discover themselves but in attentive Consideration of the Subject.

Besides we are to consider this copiousness in Place to be of no advantage; as being seldom wanting to the most part of the World. For men often become blameable for loquacity, seldom for want of saying too little. So that their Writings are most times too full of matter. And therefore to form a solid and judicious Eloquence it would be much more to the purpose to teach men to hold their tongues then to talk, and how to retrench low common and false Notions, then how to produce as they do, a confused *oglio* of good and bad Ar-

guments, with which they fill their diſcourſes.

Seeing then the uſe of *theſe Places* is ſerviceable to no other end then to find out theſe ſorts of traſhy Notions, we may ſay that if it be any way neceſſary to know what has been ſaid of 'em (for they have been the diſcourſe of ſo many eminent Men, that it would be almoſt a Crime to be altogether ignorant of 'em) 'tis only to be convinc'd how ridiculous it would be to make uſe of 'em in all things, even in thoſe which are moſt remote from our Sight, as the *Lulliſts* do by means of the general Attributes, which are a ſort of *Places*; and from thence to boaſt a prepoſterous facility to diſcourſe of all things, and to give reaſons for all things, is ſo bad a Character of Wit, that it is below the irrationality of Beaſts.

So that all the advantage that can be drawn from theſe *Places* is no more then to get a ſlight and general Tincture, to the end that without much thinking, we may view the ſeveral Parts and Faces of the matter of which we diſcourſe.

CHAP. XVIII.

The Diviſion of Places into places of Grammar, Logic, *and* Metaphiſics.

THEY who have treated of *Places*, have divided them ſeveral ways. That diviſion which *Cicero* follow'd in his Books of Invention, and ſecond,

cond, *de Oratore*, and *Quintillian* in his fifth Book of Institutions, is less Methodical, but more proper for Pleading at the Bar, for which it is purposely design'd. And *Ramus*'s is too much perplex'd with Subdivisions.

There is therefore another of a certain *German* Philosopher that seems more accurate; this is *Claubergius*, a person both solid and Judicious, whose Logic came to my hands, when I had began to Print this.

These places are drawn either from Grammar, from Logic or Metaphisics.

Places from Grammar.

The places from Grammar, are *Etymologie*, and words deriv'd from the same Root, which in Latin are call'd Conjugates, in Greek *Paronyma*.

Arguments are drawn from *Etymologie*, as when for Example, we say that few Men, to speak properly, divertise themselves. For to divertise a Mans self, is; to call his Mind from serious things when indeed very few apply themselves to serious Studies.

Conjugates also afford Arguments, as thus.

I am a Man, I think nothing humane strange.
Being Mortals, we are press'd by a mortal Enemy.
Who more deserving comfort then the Comfortless?
Who less deserving Charity then a proud Beggar.

Places from Logic.

Places from Logic are universal Terms, Genus, Species, Difference, Propriety, Accident, Definition

tion and Diviſion; which having already been explain'd before, we need ſay no more of 'em here.

Only we muſt obſerve that to theſe common places are join'd certain common Maxims, which it is good to know, not becauſe they are uſeful, but becauſe they are common. We have already produc'd ſome under other Terms; but it will not be amiſs to know 'em under their uſual and proper Terms.

1. That which is affirm'd or deni'd of the *Genus*, is affirm'd or denied of the *Species*, *whatever befalls all Men, happens alſo to the moſt Potent. For they cannot pretend to advantages above Humanity.*

2. *By deſtroying the Genus, the Species is deſtroy'd. He that never judges at all, never judges amiſs. He that never ſpeaks at all, never ſpeaks Indiſcretly.*

3. In deſtroying all the *Species*, the *Genus* is deſtroyed. *Terms call'd Subſtantial, except the rational Soul, are neither Body nor Spirit; therefore no Subſtances.*

4. If the total difference may be denied or affirmed of any thing, the *Species* may be deni'd or affirm'd. *Extent is no way agreeable to thought, therefore it is not Matter.*

5. If the property of any thing may be denied or affirm'd, the *Species* may be alſo deni'd or affirm'd. *It being impoſſible to imagine the half of a Thought, nor a round or a ſquare Thought, it is impoſſible it ſhould be a Body.*

The thing defin'd is deni'd or affirm'd, of which the definition is affirm'd or deni'd. *There are few perſons juſt, becauſe there are few perſons willing to give to every one their due.*

Places

Places of Metaphyſics.

Places of *Metaphyſics*, are general Terms agreeing with all *Beings*, to which many Arguments are refer'd, as Arguments from the *Cauſe*, *Effect*, *Whole*, *Parts*, *Oppoſites*. Wherein that which is moſt uſeful is to know ſome general Diviſions, and chiefly of cauſes.

The School-definitions of Cauſes in General; *that a Cauſe is that which produces an Effect*; or that *whereby a thing is*, are ſo ſlovenly; and it is ſo difficult to diſcern how they agree with all the *Genus's* of cauſe, that they would have done better never to have ſeparated this word from ſuch as cannot be defin'd; the *Idea* which we have of it, being as clear as the definitions which they give.

But the diviſion of cauſes into four *Species*, which are the cauſe *Final*, *Efficient*, *Material* and *Formal* is ſo celebrated, that it behoves us to take a little notice of it.

The final cauſe is call'd the end for which a thing is.

There are primitive ends which are primarily conſidered, and *Secondarie* ends, which are conſider'd Secondarily.

What we act to do or obtain a thing, is call'd the end for whoſe ſake. Thus Health is the end of Phyſick, becauſe it pretends to procure it.

The end for which we labour is call'd the *Finis cui*. Thus Man is in this Sence the end of Phyſic, for whoſe ſake ſhe pretends to make Medicines.

There is nothing more uſual then to draw Arguments from the *End*, either to ſhew that a thing is Imperfect, as an ill-contrived diſcourſe, when it is not adapted to perſwade, or to ſhew 'tis probable

that a Man has done, or will do, ſome action, becauſe that it is conformable to the end, which he has accuſtom'd to propoſe to himſelf. Whence that famous ſaying of a *Roman* Judg, *Cui Bono*, which ought always to be our firſt examination, that is, what profit a Man aims at in doing ſuch a thing; for generally profit and Intereſt governs the actions of Men. Or elſe to ſhew that we ought not to ſuſpect a Man for doing ſuch an action, as being contrary to his Intereſt.

There are alſo ſeveral other Arguments drawn from the end, which a ripe Underſtanding will ſooner diſcover then all the direction of Rules.

The Cauſe Efficient is that which produces another thing, from whence ſeveral Arguments are drawn to ſhew that the Effect is not, in regard the Cauſe is not ſufficient; or to ſhew the effect is or will be in regard the Cauſes are apparent. If the cauſes are not neceſſary, the Arguments are not neceſſary. If they are free and contigent, the Argument is only probable.

There are ſeveral ſorts of Efficient Cauſes, who names it is uſeful to know.

God creating *Adam* was the total Cauſe, in regard that nothing could concur without him. But the Father and Mother are only the partial cauſes of the Infants, in regard they want another.

The Sun is the *Proper* cauſe of Light; but he is only the accidental cauſe of the Death of a Man, whom exceſs of heat kills, in regard he was not of a ſtrong Conſtitution before.

The

The Father is the *next* Cauſe of the Son.

The Grandfather the *remote* cauſe.

The Mother the *Productive Cauſe.*

The Nurſe the *Preſerving* cauſe.

The Father is the *Univocal* cauſe of Children becauſe they are of the ſame nature with him.

God is only the *Equivocal* cauſe in reſpect of the Creatures, becauſe they are not of the nature of God.

An Artiſt is the *Principal* Cauſe of his Workmanſhip, his Tools are the *Inſtrumental* Cauſe.

The Wind that fills the Organ-Pipes is the *univerſal* cauſe of the Harmony.

The Sun is a *Natural* Cauſe.

Man is an *Intellectual* Cauſe in reſpect of what he acts with Judgment.

The Fire that burns the wood is the *Neceſſary* Cauſe.

The Sun enlightning a Chamber is the proper cauſe of the Light; the Window is only the cauſe or *Condition* without which the effect could not be, otherwiſe *Sine qua non.*

Fire burning a houſe, is the Phyſical cauſe of the Flame.

The Man that ſet it on Fire the *Moral* Cauſe.

To the efficient cauſe is alſo added the *Exemplary* cauſe; which is the Model propoſed in making the Work. As the deſign of a building, by which the Architect governs himſelf, or generally that which is the *Objective* cauſe of our *Ideas*, or of any other Repreſentation whatever. As *Lewis* the Fourteenth is the exemplary cauſe of his Picture.

The material Cauſe is, that out of which all things are made. That which agreess or does not

agree with the matter, agrees or disagrees with those things which are compos'd out of it.

The formal cause is, that which makes the thing what it is, and distinguishes it from others. Whether it be a Being really distinguish'd from the Matter, according to the opinion of the Schools; or only a disposition of the Parts. By the knowledg of this Form, Propriety is to be explain'd.

There are as many different Effects as causes, the words being Reciprocal. The usual manner of drawing Arguments from hence is to shew, that if the Effect be, the cause is, since nothing cannot be without a cause. It proves also that a cause is good or bad, when the Effects are good or bad. Which is not always true however in causes by accident.

We have spoken sufficiently of the whole and Parts in the Chapter of Division; and therefore it will be needless to add any thing more here.

There are four sorts of Oppolite Terms.

Relatives, as Father and Son, Master and Servants.

Contrarys, *Cold, Hot, Sound and Sick.*

Privatives, as life, death, sight, blindness, hearing, deafness, knowledge, ignorance.

Contradictories which consist in one Term, and in the simple Negation of the Term, to see, and not to see. The difference which there is between these two latter sorts of Opposites, that the Privative Terms include the Negation of a Form in a Subject which is capable of it, whereas the Negatives do not denote that Capacity. Therefore we do not say a Stone is blind, or dead, as not being capable either of life or seeing.

Now in regard these Terms are opposite, they make

make uſe of the one to deny the other. The contradictory Terms have this Property, that by taking away the one, the other is confined.

Compariſons are of many kinds. For they compare things whether equal or unequal, like or unlike. They prove that what agrees or diſagrees with one thing equal or unequal, like or unlike, agrees or diſagrees with another thing to which it is either like or unlike, equal or unequal.

Of things unequal it is prov'd Negatively, that if what is moſt probable is not; that which is leaſt probable is not *a fortiore*. Affirmatively, if that which is leaſt probable, be, that which is moſt probable is alſo These differences or diſſimilitudes are made uſe of, to ruin thoſe things, which others would have eſtabliſh'd upon ſimilitudes; thus we ruin an Argument drawn from the ſentence of a Judg by affirming it was pronounc'd in a different Caſe.

This is the cheifeſt part of what is blockliſhly deliver'd concerning *Places*. There are other things which are more profitable to be known, then what is here explain'd. They who deſire more may conſult the Authors themſelves who have more accurately handi'd theſe things. But I would not adviſe any one to conſult the Topics of *Ariſtotle*, as being Books very confus'd. But there is ſomthing which is not a little to be commended in the firſt Book of his *Rhetoric*, where he teaches ſeveral ways to ſhew that a thing is profitable, pleaſing, greater or leſs. Though it be certain that a man ſhall never by this way arrive at any certain knowledg.

CHAP.

CHAP. XIX.

Of the ſeveral ſorts of vitious Arguments which are cal'd Sophiſms.

ALTHOUGH that when we underſtand the Rules of right Arguing, it be no difficult thing to diſtinguiſh thoſe that are falſe; nevertheleſs as examples to be avoided make a deeper impreſſion in our minds, then examples that are worthy imitation, it may not be amiſs to lay open the ſources of bad Arguments, which are call'd *Sophiſms* or *Paralogiſms*, whereby they may the more eaſily be avoided.

I ſhall reduce 'em only to ſeven or eight Heads, there being ſome ſo notoriouſly ſtupid that they are not worthy remembrance.

Sophiſm I.

To prove another thing then that which is in queſtion.

This Sophiſm is call'd by *Ariſtotle*, *Ignoratio Elenchi*: The ignorance of that which is to be prov'd againſt the Opponent. For in diſpute we grow hot, when many times we do not underſtand one another. This is a common vice in the diſputes among men. Through paſſion, or falſhood we attribute that to the Opponent, which is remote from his thoughts, to combat him with more advantage:

vantage: or we tax him with conſequences which we think we can draw from his doctrine, which he diſavows and denies. All this may be referr'd to the firſt ſort of Sophiſm, which a man of worth and ſincerity ought to avoid above all things.

It were to be wiſh'd that *Ariſtotle*, who is too careful to admoniſh us of this defect, had been alſo as careful to avoid it. For it cannot be deny'd, but that he has encounter'd ſeveral of the ancient Philoſophers by citing their Opinions, not with that ſincerity which he ought to have done. He refutes *Parmenides* and *Meliſſus*, for not admitting but one ſole Principle of all things, as if they had meant by that, the Principle of which they are compos'd; whereas they meant the ſole and only Principle from whence all things draw their Original, God himſelf.

He accuſes all the Ancients for not acknowledging Privation, one of the Principles of natural things; and for that, he inveighs againſt 'em as dull and ruſtic. But who ſo blind as not to ſee, that what he repreſents to us as a grand myſtery not known till he diſcover'd it, could never be conceal'd from any man: ſince it is impoſſible for a man not to apprehend, that the matter of which a Table is made, muſt have the Privation of the form of a Table, that is can be no Table before it is ſhap'd into a Table. 'Tis true, the ancients never thought of this uſe of Privation to explain the Principles of things natural, becauſe indeed there is nothing leſs ſerviceable to that purpoſe. It being viſible, that we do not therefore the better know how a Clock is made, becauſe we know that the matter of which a Clock was made, was not a Clock before.

Therefore

Therefore it is a great peice of Injuſtice in *Ariſtotle* to reproach theſe ancient Philoſophers for having been ignorant of a thing which it was impoſſible for 'em to be ignorant of; and to accuſe 'em for not making uſe of a principle for the Explanation of Nature that explains nothing at all: nay he is guilty of deluſion, and Sophiſm while he obtrudes upon us the principle of Privation for a rare ſecret, when this was not that which they ſought, when they enquir'd into the principles of Nature. For it is certain, that nothing can be, before it is. But we are deſirous to know of what principles it conſiſts and what is the Cauſe that produc'd it.

Thus, for example, there was never any ſtatuary, who to teach another the way to make a ſtatue, gave his Scholar that Leſſon for his firſt Inſtruction wherewith *Ariſtotle* would have us begin the Explanation of the works of Nature. Friend, the firſt thing you are to know is this, that for the making of a Statue, you muſt chuſe a peice of Marble, which is not yet that Statue which you deſign to make.

II.

To ſuppoſe for truth the thing that is in queſtion.

This is that with *Ariſtotle* calls *begging of the queſtion*, which we manifeſtly ſee to be contrary to true reaſon. Since in all Arguments, that which ſerves for Proof, ought to be more clear and known then the thing which we would prove.

Nevertheleſs *Galileus* accuſes *Ariſtotle*, and that juſtly too, to have fallen into this Error, when he would prove by this Argument, that the Earth is the Center of the world.

'Tis

'Tis the Nature of heavy things to tend to the Center of the world, and of light things, to keep at a diſtance from it.

Now experience ſhews us, that Heavy things tend to the Center of the Earth, and light things keep at a diſtance from it.

Therefore the Center of the Earth is the Center of the world.

Moſt apparent it is that there is in this Argument a manifeſt *begging of the Principle.* For we find that heavy things tend to the Center of the Earth, but where did *Ariſtotle* learn that they tend to the Center of the world, unleſs he ſuppoſe the Center of the Earth and the Center of the world to be the ſame. Which is the Concluſion that he would prove by this Argument.

Meer beggings of the queſtion alſo are thoſe Arguments which are made uſe of to prove a whimſical Genus of ſubſtances, call'd in the Schools *ſubſtantial Forms*, which they would have to be Corporeal, though they are no Bodys, which is difficult for the underſtanding to apprehend. If there were no Subſtantial Forms, ſay they, there would be no Generation: But there is Generation in the world, therefore there are Subſtantial Forms.

Now to ſhew that this Argument, is a meer Begging of the queſtion, there needs no more then to lay open the Equivocation that lyes in the word Generation. For if we muſt underſtand by the word Generation, a natural production of a *new whole* in Nature, as the Production of a Hen, which is form'd in an Egg, in this ſence we may truly allow of Generation; but we cannot thence conclude that there are new Subſtantial Forms, becauſe the

ſole

ſole Diſpoſition of the Parts by nature, may produce thoſe *new Wholes*. But if they mean by the word *generation*, as they uſually do, the Production of a new ſubſtance which never was before, that is to ſay of Subſtantial Form, we may juſtly doubt the thing that is in queſtion, it being viſible that he who denyes Subſtantial Forms can never grant that nature produces Subſtantial Forms. And ſo far is this Argument from perſwading a man to admit Subſtantial Forms, that he may draw a quite contrary Concluſion in this manner.

If there were Subſtantial Forms, nature might produce Subſtances that never were before.

But nature cannot produce new Subſtances, becauſe it would be a kind of Creation.

And therefore there are no Subſtantial Forms.

Of the ſame leven is this; If there were no Subſtantial Forms, ſay they, there would be no ſuch natural *Beings* at all, as they call *Per ſe*, *Totum Per ſe*, but *Beings* by accident. But there are *Tota* or *Wholes Per ſe*; Therefore there are Subſtantial Forms.

Firſt we are to deſire thoſe that make uſe of this Argument to explain themſelves, what they mean by *Whole per ſe*, *totum per ſe*. For if they mean, as they do, a Being compos'd of Matter and Form, then it is clearly a Begging of the queſtion; for then it would be as if they ſhould have ſaid, if there were no Subſtantial Forms, natural Beings could not be compos'd of Matter and Forms Subſtantial. But they are compos'd of Matter and Forms Subſtantial, Therefore there are Forms Suſtantial. If they mean any thing elſe let 'em tell us and we ſhall ſee whether it will avail to maintain their concluſion.

We

We have ſtopp'd here a little by the by, to ſhew the weakneſs of theſe Arguments, upon which the Schools have grounded theſe ſorts of Subſtances, which can neither be diſcover'd by the ſence nor apprehended by the underſtanding, and of which we know nothing more, but that they are call'd *Subſtantial Forms.*

Becauſe that although there Supporters do it, out of a good deſign, nevertheleſs the Grounds which they make uſe of, and the *Ideas* which they give of Forms obſcure, and trouble the ſolid and convincing Proofs of the Immortality of the Soul, which are drawn from the diſtinction between Bodies and Spirits, and the Impoſſibility that a ſubſtance which is not matter ſhould periſh by the Changes that happen to matter. For by the means of theſe Subſtantial Forms, *Libertines* furniſh themſelves with examples of ſubſtances that periſh, which are not properly matter, and to which they attribute in Animals an Infinity of thoughts, that is, of actions purely ſpiritual. And therefore it is for the benefit Religion, and the Conviction of Infidels to overturn this Anſwer of theirs, to ſhew that there is nothing more ſtupid nor worſe grounded, then theſe periſhable ſubſtances, which they call Subſtantial Forms.

To this may be referr'd that ſort of Sophiſm which is drawn from a principle different from what is in the queſtion, but which is known to be no leſs conteſted by the Opponent. Theſe are two Maxims equally conſtant among the Catholicks. The one that all points of faith can't be prov'd by Scripture alone: the other, that Children are capable of Baptiſm; Therefore an Anabaptiſt would argue ill, to prove againſt

againſt the Catholicks, That they are in the wrong to believe that Children are capable of Baptiſm, becauſe we find nothing to prove it in Scripture; becauſe that would ſuppoſe that we ought to believe no Article of Faith but what is in the Scripture, which is deny'd by the Catholics.

Laſtly we may refer to this Sophiſm, all thoſe Arguments, by which we endeavour to prove one thing unknown, by another altogether as much unknown, or a thing uncertain by another thing altogether or more uncertain.

III.

To take for the Cauſe that which is not the Cauſe.

This Sophiſm is call'd *non Cauſa pro Cauſa*. This is very uſual among men, and they fall into it ſeveral ways. The one through the bare Ignorance of the real Cauſes of things. Thus the Philoſophers have attributed a Thouſand Effects to the Fear of *Vacuum*, which at this day and by moſt ingenious experiments is demonſtratively prov'd to have no other Cauſe then the Ponderoſity of the Air, as we may ſee in that excellent Treatiſe of Monſ. *Paſcal*, lately Printed. The ſame Philoſophers teach us, that Veſſels full of water, crack when the water is frozen, becauſe the water cloſes it ſelf, and leaves a voy'd ſpace which nature cannot endure; whereas it is well known, that thoſe Veſſels break, becauſe the water when congeal'd takes up more ſpace then when fluid; which is the reaſon that the *Ice* ſwims upon the water.

To this may referr'd that other Sophiſm, when we make uſe of remote cauſes, and ſuch as prove nothing,

nothing, to prove things either clear of themſelves or falſe, or at leaſt doubtful, as when *Ariſtotle* would prove that the world is perfect by this Reaſon.

The world is perfect becauſe it contains Bodys; The Body is perfect becauſe it contains three dimenſions; the three dimenſions are perfect, becauſe there are all (quia tria ſunt Omnia), *and there are all, becauſe we never uſe the Word all, when the thing is either one or two, but there are three.*

By which reaſon a man might prove that the leaſt Atome is as perfect as the world, becauſe it has three dimenſions as well as the world. But this is ſo far from proving the world to be perfect, that the quite contrary is rather to be aſſerted, that every Body, *quatenus* a Body, is eſſentially imperfect; and that the perfection of the world conſiſts cheifly in this, that it includes Creatures that are not Bodies.

The ſame Philoſopher proves that there are three ſimple motions, becauſe there are three Dimenſions. Though it be a very difficult thing to find a Concluſion from the Premiſes.

He alſo proves that the Heaven is unalterable and Incorruptible, becauſe it moves circularly. But firſt, it is not well diſcover'd yet what Contrariety of motion has to do with the Corruption or Alteration of Bodys. In the ſecond place there is leſs Reaſon to be given, why a circular motion from Eaſt to Weſt, ſhould be contrary to a circular motion from Weſt to Eaſt.

In the ſecond place we fall into this ſort of Sophiſtry through that ſilly Vanity that makes us aſham'd to confeſs our Ignorance. From whence it happens,

that we rather chuſe to forge imaginary cauſes of the things, for which we are ask'd the reaſon, then to confeſs that we know it not. And it is a pretty kind of way whereby we avoy'd this Confeſſion of our Ignorance. For when we ſee the effect of a cauſe unknown we imagin we have diſcover'd it, when we have joyn'd to this effect a general word of *Vertue* or Faculty; which Forms in our mind no other *Idea*, but onely that the effect has ſame cauſe, which we knew before we found out that word. For example there is no body but knows that the Arterys beat, that *Iron* cleaves to the *Adament*, that *Sena* purges, and *Poppy* Stupifies. They who make no profeſſion of knowledge, and who are not a ſham'd of Ignorance, freely confeſs that they know the Effects, but underſtand not the cauſe, whereas others that would bluſh to ſay ſo, and pretend to have diſcover'd the real cauſe of effects preſently cry, there is a pulſific vertue in the Arteries, a Magnetic vertue in the *Adamant*, a Purgative vertue in *Sena*, and a Soporific, vertue in *Poppy*. Now is not this quaintly reſolv'd? and might not the *Chineſes* with as much facility have extricated themſelves from all their admiration of our Clocks, when firſt brought into their Country? For they might have ſaid they knew perfectly the reaſon of what others were ſo puzzl'd at, by affirming that it was only by an *Indicative* vertue that this Engin mark'd out the hours upon the *plane*, and by a *Sonorific* quality that the Bell ſtrook. Certainly they might have paſſ'd for as learned Perſons in the knowledge of Clocks, as our Philſophers in cauſes of the beating of the Arterys, *&c.*

There are alſo certain other words that ſerve to render

render men learned at a ſmall expence, as *Sympathy*, *Antipathy* and *occult Qualities*. Yet they that uſe 'em would utter nothing of falſhood, provided they annex'd the general notion of the cauſe to the words *Vertue* and *Faculty*; Whether it is Internal or External, Diſpoſitive or active. For certain it is that there is a Diſpoſition in the Magnet for whoſe ſake the *Iron* moves to that rather then to any other ſtone.

And men have been allow'd to call this Diſpoſition whatever it be, *Magnetic Vertue*. So that if they are deceiv'd 'tis onely in this, that they imagin themſelves to be more Learned then others for having found out the word; or elſe becauſe they would have ſignifi'd by this word a certain imaginary quality whereby the Magnet draws the Iron, which neither they, nor any other Perſon could ever apprehend in their underſtandings.

But there are others who obtrude upon us for real cauſes of nature pure chimera's, as the Aſtrologers; who refer all cauſes to the Influences of the Stars. And theſe are they forſooth who have found out that there muſt of neceſſity be an Immoveable Heaven above all the reſt of the Sphears which they allow motion; becauſe the Earth producing divers things in different Climes,

Non omnis fert omnia tellus.
India mittit ebur; molles ſua thura Sabæi.

There can be no cauſes of ſuch variety of productions but the Influences of a Heaven, which being Immoveable has always the ſame Aſpects upon the ſame parts of the Earth.

Thus one of theſe Doctors having undertaken to

prove by Phyſical Reaſons the Immobility of the Earth, makes it one of the principal Demonſtrations of that miſterious Reaſon, that if the Earth turn'd about the Sun, the Influences of the Stars would be carry'd obliquely which would cauſe a great diſorder in the world.

With theſe Influences they ſtrangely terrifie the People, ſo that when they ſee any Comet appear, or that any great Eccliplſe happens, then the world muſt be turn'd topſe-turvy, and wo to *Spain*, *Germany*, *Swedland*, or ſome other Country which they have moſt a peek at; tho there be no reaſon that either Comets or Eclipſes ſhould have any conſiderable effect upon the Earth, or that general cauſes as they are, ſhould operate more effectually in one part more then in another, or threaten a King or a Prince more then a Mechanic, beſides that we find a hundred Comets that were never Infamous for any of thoſe Dire effects lay'd to their charge.

For what if Mortality, Peſtilences, Wars, Deaths of Princes do ſometimes happen after the Appearance of Comets and ſight of Eccliplſes, they as often happen without any ſuch ſignals. Beſides theſe effects are ſo general and common, that it is much if they do not happen in ſome part of the world every year. So that they who talk at Random, that ſuch a Comet threatens the death of ſome great Perſonage, do not hazard their Reputation over much.

But it is far worſe when they give theſe Chimerical Influences for the cauſe of the vertuous or vitious Inclinations of men, as alſo of the particular actions and events of their Life, without having any other ground, then only that among ten thouſand

Predictions

Predictions it falls out by hap-hazard that ſome one proves true. Altho if a man were to judge of theſe things rationally and according to good ſence, he might as well ſay that a Candle lighted in the Chamber of a woman that lyes in, ought to have a greater Influence upon the Body of the Infant, then the Planet *Saturn* in whatſoever *Aſpect* or *Conjunction* it be. Laſtly there are ſome, who aſſign Chimerical cauſes of Chimerical effects; and ſuch are thoſe who ſuppoſing that nature abhors a vacuity, and that ſhe does her utmoſt to avoy'd it, fain more Fictious cauſes of this Fictitious horrour; the effect it ſelf being imaginary, ſeeing that nature fears nothing, and that all the effects which are attributed to this dread of nature, depend upon the ſole Gravity of the Air. Nature abhors a *Vacuum* ſays one of theſe profound Philoſophers, becauſe ſhe has need of *Continuity* of Bodys to Tranſmit her Influences, and for the Propagation of qualities. A moſt wonderful Science indeed which goes about to prove that which is not, by that which is not.

Therefore when we ſearch the cauſes of extraordinary effects, we ought carefully firſt to examin whether the effects be true. For ſometimes we labour to no purpoſe to ſearch out the reaſon of things that are not. Inſomuch that there are an Infinite number of queſtions which are to be reſolv'd, as *Plutarch* reſolves this propounded by himſelf, *Why ſuch Colts as are purſu'd by the Wolf are ſwifter then others.* For after he has ſaid, that perhaps the Wolf might have aſſail'd the more ſlow of Foot firſt, and ſo they that eſcap'd were the ſwifteſt, or elſe that fear having added wings to their feet had imparted to 'em that habitude of ſwiftneſs which afterwards

they retain'd, he at last brings another solution which seems to be very true and genuine, *Perhaps*, says he, *the thing it self may be a story*. And this is the method we ought to observe in Philosophizing concerning sundry effects which are attributed to the Moon, such as these, that the bones are full marrow upon the Increase of the Moon; but empty when she is in her wain; And whereas also the same is said of crevices or Crayfish; there is no other answer to be made but that the whole is a Fable, as several Persons very diligent and exact have assur'd me, that as well the bones and Crayfish are sometimes empty, sometimes full in all the quarters of the Moon. Many observations of this nature there are in reference to the cutting of Wood, sowing and gathering of Fruit, Grafting, and the very moment when fit to take Physic. But the world will be delivered at length from these little Bondages which have no other ground then meer suppositions that were never seriously examin'd. And therefore they are unjust who require us, without any Examination to believe their figments, meerly upon one single Experiment, or an Allegation out of some ancient Author.

To this sort of Sophistry ought also to be refer'd that usual fallacy of Human wit, *Post hoc, Ergo propter hoc*. After this, *therefore for this*. Hence it is that the Dog Star is concluded to be the cause of the violent heat at that time of the year which is call'd the Dog-days, which caus'd *Virgil*, speaking of that Star to pronounce these Verses.

Aut

Aut ſirias ardor.
Ille ſitim morboſque ferens mortalibus ægris
Naſcitur, & lævo contriſtat lumine cælum.

Whereas Monſiuer *Gaſſendus* has well obſerv'd that there is nothing leſs probable then this vain Imagination. For this ſame Star being beyond the Line, the Influences ought to be ſtronger in thoſe places that lye more perpendicularly under it. And yet when the Dog-days are ſo vehemently hot with us, it is Winter in other parts. So that they beyond the Line may as well believe the Dog-Star to be the cauſe of Cold, as we to believe it to be the cauſe of Heat.

IV. *Sophiſm.*

Imperfect Enumeration.

There is no vice of Argument into which the Learned fall more eaſily then into this of falſe Enumeration, and of not duly conſidering all the manners how things may be or be effected, which makes 'em conclude raſhly, either that it is not, becauſe it is not in ſuch a manner, though it may be after another manner; or elſe that it is after ſuch or ſuch a manner, when it may be after another manner then they have yet thought of.

We may find ſeveral of theſe defective Arguments in the Proofs upon which *Gaſſendus* eſtabliſhes the Ground of his Philoſophy, *viz.* That *Vacuum* is interſpac'd between the Parts of matter which he calls his Diſſeminated *Vacuum*. And I am the more willing to produce 'em, in regard that *Gaſſendus*

having been a famous Person in his time, and of great knowledge in the most curious parts of Learning, the Errours and failings which are to be seen scattered into many great Volums of his Works published after his death, are therefore the more worthy to be known and discussed: whereas it would be to no purpose to take notice of the Errours so frequent in Authors of no account.

The first Argument which *Gassendus* employs to prove his *Disseminated Vacuum*, and which he would make us believe to be as certain as a Mathematical Demonstration, is this.

If there were not a *Vacuum*, but that the whole were fill'd with Bodies, the motion would be impossible, and the world would be a meer heap of Stiff, Inflexible and immoveable Matter. For the world being all full, no body could be mov'd but it must go into the place of another. Thus if the Body *A.* be mov'd, it must displace another Body at least equal to it, *viz.* B. and B. removing must displace another. Now this cannot happen otherwise then two ways: one that this displacing of Bodies must extend it self to Infinity, which is Ridiculous and impossible: the second that the motion must be circular, that so the last body remov'd may supply the place of *A.*

Hitherto there is no imperfect Enumeration appears: and it is true moreover, that it is a Ridiculous thing to imagin, that one body being remov'd other bodys successively by removing displace one another to infinity: Only they say that the motion is Circular, and that the last Bodies being remov'd possesses the place of the first which is *A.* and so the whole is full. And this is that which *Gassendus* under-

undertakes to refute by the following Argument. The first body remov'd which is *A.* cannot be mov'd, if the last which is *X.* do not move. Now *X.* cannot move for that if it remain it must possess the Place of *A*, which is not yet void; and so *X.* not being able to move, neither can *A*; for which reason the whole must be immoveable. All which Argument is founded only upon this Supposition, that the body *X.* which is immediately before *A.* cannot be removed, unless the place of *A.* be void before hand, when it begins to move. So that before that instant that it possesses that place, there may be said to be another which may be said to be *Vacuum.*

But this Supposition is false and imperfect. For there is yet another case, wherein it is very impossible that *X.* may be mov'd, that is to say, that at the same instant that it possesses the place of *A*; *A.* may quit that place, and in that case, there will be no inconvenience, if *A.* push *B.* forward, and *B.* thrusts forward *C.* till they come to *X.* and that *X.* at the same time possesses the place of *A.* For by this mean there will be a Motion, and yet no *Vacuum.*

Now that it may be possible that a Body may possess the Place of another Body at the same instant that the Body leaves it, is a thing which we are oblig'd to confess, in whatever Hypothesis, provided only that we admit some continued Matter. For example let us grant two parts in a Staff, immediately contiguous, it is evident that at the same time that the place is quitted by the first, it is possess'd by the second, and that there is no instant wherein there can be said to be a *Vacuum.* But this is more clear by an Iron Circle that turns about its Center

Center, for then at the ſame inſtant every part poſſeſſes the ſpace which was quitted by that which went before, with that celerity that will admit no *Vacuum*, ſo much as to be imagined. Now if this be poſſible in a Circle of Iron, ſhall it not be the ſame in a Circle partly of Wood, and partly of Air? And therefore the Body A. ſuppos'd to be of Wood, puſhing forward, and diſplacing the Body B. ſuppos'd to be of Air, why may not B. diſplace another, and that another to X. which ſhall enter into the place of A. at the ſame inſtant that A. quits it?

It is clear then that the ſaid effect of *Gaſſendus*'s Reaſon proceeds from hence, that *Gaſſendus* thought that one Body could not poſſeſs the Place of the other, but that the place muſt be void beforehand, and in a preceeding inſtant; not conſidering that there was the ſame inſtant of quitting and poſſeſſing.

His other proofs are deduc'd from ſeveral experiments, by which he proves with good reaſon that the Air is compreſs'd, and that new Air may be forc'd into the place which ſeem'd already full; as we ſee in Wind-Guns and Bladder Foot balls.

Upon which Experiment he forms this Argument. If the ſpace A. already full of Air, be capable to receive a new quantity of Air by Compreſſion, of neceſſity this new Air, muſt either be forc'd in, by Penetration into the ſpace already poſſeſſ'd by Penetration, which is impoſſile; or elſe that the Air which is enclos'd in A. does not entirely fill the ſpace; but that between the parts of the Air there were certain void ſpaces, wherein this new Air is receiv'd; And this ſecond *Hypothe*is

ſays

ſays he, proves what I aim at, which is to make it out, that there are void ſpaces between the parts of matter. But it is very ſtrange, that *Gaſſendus* did not apprehend that he reaſon'd upon a falſe Enumeration, and that beſides the *Hyppotheſis* of Penetration, which he had reaſon to judge naturally impoſſible, and that of *Vacuums diſſeminated* between the parts of matter, there was yet a third, of which he ſays nothing, and which being poſſible, is the reaſon that his Argument concludes nothing. For we may ſuppoſe that between the thick and groſſer parts of the Air, there may be another more ſubtile ratify'd, and which being able to paſs through the pores of all the Bodys, cauſes the ſpace which ſeems full of Air, may alſo receive other new Air. For that this ratify'd matter being chas'd out of the pores through the parts of the Air which is forc'd in, gives way to the new Air.

And indeed Monſ. *Gaſſendus* was ſo much the more oblig'd to refute this *Hypotheſis*, as admitting himſelf this ſubtile matter which penetrates Bodys, and paſſes through the Pores, in regard he affirms, that cold and heat and certain little Bodys that enter the Pores of our Bodys, and aſſerts the ſame thing of Light, and acknowledges, in that famous Experiment made with Quick-Silver, in pipes fill'd up to the height of two foot three fingers and a half, leaving ſtill a ſpace above that length which ſeems, void, as not being fill'd with any ſenſible matter; I ſay he acknowledges, that ſpace cannot be call'd *Vacuum*, as being penetrated by the Light which he takes for a Body.

And ſo by filling with ſubtile matter thoſe ſpaces which he takes to be voy'd, he will find as much ſpace for

for his Bodys to enter, as if they were actually voy'd.

V.

To judge of a thing which only agrees with it by accident.

This Sophiſm is call'd in Schools *Fallacia accidentis*, the *Fallacy of the Accident*. When we draw an abſolute Concluſion ſimple and without reſtriction from what is not true but only by accident. This is that which cauſes ſo many people to exclaim againſt Antimony, becauſe that being ill apply'd it produces bad effects. And that others attribute to eloquence all thoſe bad effects which the abuſe of it produces; and to Phyſice the Faults of Ignorant Doctors.

But it is no Sophiſm, as the Papiſts pretend, when urg'd againſt thoſe Inventions of Satan, Invocation of Saints, Veneration of Reliques and Praying for the dead which were never of any antiquity, but ſuperſtitious cheats impos'd upon the people by Popes far remote from Antiquity in the times of darkeſt Ignorance and Impiety.

We alſo fall into this vitious way of arguing when we take ſimple occaſions for real cauſes; as if we ſhould accuſe the Chriſtian Religion for having been the cauſe of the Maſſacre of ſo many Multitudes, who rather choſe to ſuffer Death then renounce Chriſt; whereas we are not to impute thoſe Murders to the Chriſtian Religion, nor the Conſtancy of the Martyrs, but only to the Injuſtice and cruelty of the Pagans.

We alſo find a conſiderable example of this Sophiſm

Sophiſm in the Ridiculous Arguments of the *Epicureans*, who concluded that the Gods had human ſhape, becauſe that only man is endu'd with Reaſon.

The Gods, ſay they, *are moſt happy. None can be happy without vertue, there is no vertue without Reaſon, and Reaſon is found no where but in human Form; we muſt therefore confeſs the Gods to be of human ſhape.*

But they were ſtrangely blind, not to ſee that the Subſtance which thinks and reaſons may be joyn'd to the Body; 'tis not human ſhape that cauſes thought and Reaſon in man. It being ridiculous to imagin that Thought and Reaſon depend upon a mans having a Noſe, a Mouth, Cheeks, two Arms, two Hands two Feet. And therefore it was a Childiſh Sophiſm of thoſe Philoſophers to conclude that there could be no Reaſon but in human ſhapes; it being only joyn'd by accidents to human ſhape in Man.

VI.

To paſs from ſence divided to ſence compos'd, or from ſence compos'd to ſence divided.

The one of the Sophiſms is call'd *Fallacia Compoſitionis*, *Fallacy of Compoſition*; and the other *Fallacy* of diviſion: which are both apprehended better by examples,

Jeſus Chriſt ſaith in his Goſpel, ſpeaking of his Miracles, *The Blind ſee, the Lame walk, the Deaf hear.* This cannot be true, while we take things ſeperately and not conjoyntly, that is to ſay, in a ſence

ſence divided, and not in a ſence compos'd. For the blind ſee not, while they are blind, neither do the deaf hear, while they remain ſo; but after they had recovered their ſight and hearing by the Miracles of *Chriſt* they both heard and ſaw.

In the ſame ſence it is ſaid in Scripture that God juſtifies the wicked. Not that he accompts thoſe for juſt who abide in their wickedneſs; but that by his Grace he juſtifies thoſe who were Impious before.

On the other ſide there are ſome Propoſitions, which are not true but in a ſence oppos'd to that which is the ſence divided. As when *St. Paul* ſays, that Slanderers, Fornicators, and Covetous men ſhall not enter into the Kingdom of Heaven. For it is not meant that none of thoſe who are Guilty of thoſe vices ſhall be ſav'd; but only thoſe who remain impenitent, and obſtinately go on in their ſins ſhall not enter into the Kingdom of Heaven.

It is manifeſt now that there is no Tranſition from one of theſe ſences to the other without a *Sophiſm*. And for example, it is apparent that they would argue very ill, that ſhould hope for Heaven, that perſevere in their ſins, becauſe that Chriſt came to ſave ſinners, and becauſe he ſays, that wicked women ſhall precede the Phariſees in the Kingdom of Heaven; ſeeing that he did not come to ſave ſinners abiding in their ſins, but to teach and admoniſh 'em to forſake their ſins.

VII.

To paſs from what is True in ſome reſpect to what is ſimply true.

This call'd in the Schools a *dicto ſecundum quid ad dictum ſimpliciter.* As for example the *Epicureans* prove that the Gods had human ſhape, becauſe there is no form ſo lovely as that, and for that all that is lovely ought to be in God. For human form is not abſolutely Beautiful, but only in reſpect of other Bodys. And ſo being a Perfection only *ſecundum quid*, or in ſome reſpect and not ſimply, it does not follow that it ought to be the ſhape of God, becauſe all perfections are in God, there being no perfections but what are ſimply ſo, that is, which exclude all manner of Imperfection, that can be aſcrib'd to God.

We find alſo in *Cicero*, l. 3. *de natura Deorum*, a Ridiculous Argument of *Cotta*, againſt the exiſtence of God, which may reduc'd to this Sophiſm. *How* ſays he, *can we conceive God, when we can attribute no vertue to him? for ſhall we ſay that he has Prudence? Prudence conſiſts in the choice of good and evil: now God can have no need of this choice, not being capable of any evil. Shall we ſay that he has underſtanding and Reaſon? we make uſe of underſtanding and Reaſon to diſcover what is unknown to us by what we know: now there can be nothing unknown to God. Nor can Juſtice be in God which only relates to Human Society: Nor temperance, becauſe he has no pleaſures to govern; nor Fortitude, for that pain never oppreſſes God, nor labour wearys him; and beſides*

beſides he is expos'd to no danger. How then can that be God, which has neither underſtanding nor vertue?

Nothing can be conceiv'd more impertinent then this manner of arguing. For thus might any Country man diſcourſe, who never having ſeen any other then Thatch'd Houſes, and having heard that in Citys their are no houſes cover'd with Thatch, ſhould thence conclude that there are no houſes in Citys, and that they who lives in Citys live miſerably expos'd to all the Injurys of the weather. For thus *Cotta*, or rather *Cicero* argues. There can be no vertues in God like to thoſe which are in men; therefore there can be no vertue in God. And what is more wounderful is this, that he does no conclude, that there is no vertue in God but only becauſe the imperfections of human vertue cannot be in God. So that it is one of his proofs that God wants underſtanding and knowledge, becauſe all things are known to him. That is, that God ſees nothing, becauſe he ſees all things: that he is unable becauſe he is Ominpotent: that he enjoys nothing of happineſs, becauſe he enjoys all felicity.

VIII.

To abuſe the Ambiguity of words becauſe it may be done diverſe ways.

To this ſort of Sophiſm may be referr'd all Syllogiſms that are vicious, as having four Terms. Whether it be that the middle Term be taken twice particularly, or whether it be that it is taken in one ſence in the firſt Propoſition, and in another ſence in the ſecond,

cond, or laſtly whether the Terms of the Concluſion be not taken in the ſame ſence in the Premiſes, as in the Concluſion. For do not reſtrain the word Ambiguity to the onely words which are groſly equivocal; for they rarely fail, but we mean by that whatever can change the ſence of words, eſpecially when men are not eaſily aware of the change, in regard that diverſe things being ſignify'd by the ſame ſound they take 'em for the ſame thing. In reference to which may be ſeen what has been ſaid already toward the end of the firſt Part, where we have not onely ſpoken of the Remedies againſt the Confuſion of Ambiguous words, by defining 'em ſo clearly that no man can be deceiv'd.

I ſhall therefore produce ſome examples of this Ambiguity that many times deceives men of ripe apprehenſions. Such is that, which is found in words that ſignifie ſome *Whole*, which may be taken either collectively or diſtributively; thus ought the Sophiſm of the *Stoicks* to be reſolv'd, who argu'd that the world was an Animal endu'd with reaſon.

For that which has the uſe of Reaſon is better then that which has not.

Now there is nothing, ſay they, can be better then the world.

Therefore the world hath the uſe of Reaſon.

The Minor of this Argument is falſe, becauſe they attribute to the world what is only to be aſcrib'd to God. Who is ſuch a *Being*, then which there can be nothing greater or more perfect. But if it be ſpoken of the Creatures only nothing can be more perfect then the world, if it be collectively taken for the Univerſality of things created by God. But

hence it can only be inferr'd that the world is endu'd with reaſon, in ſome of its parts as Angels, and men; but conjunctively it cannot be ſaid to be a rational Animal.

It would be alſo a bad way of Arguing to ſay, that a man thinks, or a man is compos'd of Soul and Body, therefore the Soul and Body think. For it is ſufficient to ſay that a man thinks, when one part of him only is ſaid to think; from whence it no way follows that the other part thinks.

IX.

To draw a general Concluſion from a defective Induction.

We call induction, when the ſearch of ſeveral particulars leads us to the ſearch of a general Truth.

Thus when we have experimented that moſt Seas are ſalt, and that the water of moſt Rivers is freſh, we generally conclude that the Sea water is ſalt and River water freſh. The various experiments which we make that Gold looſes nothing in the fire, gives us reaſon to Judge that this is true of all Gold. And in regard we never met with any people but what ſpoke we belive that all men ſpeak, that is make uſe of Sounds to ſignifie their thoughts.

From this Induction alſo all our knowledge takes its riſe, in regard that particulars preſent themſelves to us before Univerſals; though afterwards we make uſe of univerſals to underſtand particulars.

However it is equally certain that Induction alone

is

is never any assured means to acquire perfect knowledge, as we shall demonstrate in another place. The consideration of singulars, affording an opportunity only to the understanding to be more attentive upon natural *Ideas*, according to which we Judge of the Truth of generals. For example I should never have thought of considering the nature of a Triangle, had I never seen a Triangle, which gave me an occasion to think of it. However it is not the particular Examination of all Triangles which makes me conclude generally and certainly of all, that the space which they comprehend is equal to that of a Rectangle of all their Base, and the half of their Height (for this examination would be impossible) but the sole consideration of what I know is included in the *Idea* of a Triangle which I find in my understanding.

However it be, having resolv'd to treat of this matter in another place, it suffices here to say that defective Inductions, that is to say, such as are not entire, are the causes of manifold Errours. I shall only produce one memorable example.

All Philosophers to this day, have held it for an unquestionable Truth, that a Pipe being stop'd, it was impossible to pull out the stoppel without breaking the Pipe, and that water might be forc'd as high as a man pleases by the help of *Crisilian* Engins call'd *Aspirant Pumps*. And that which made 'em so confident was, that they thought themselves assur'd of it by a most certain Induction, as having made an infinite number of Experiments. But both the one and the other is found to be false; for that new Experiments have since been made that a Stopple may be drawn out of a *Syphon* never so

well ſtopt without breaking the Pipe, provided the force be equal to the weight of the *Cylinder* of the Water, thirty three foot high, and of the ſame thickneſs with the Pipe: and that in *Pumps* aſpirant the water does not aſcend higher then from thirty two to thirty three foot.

CHAP. XX.

Of bad reaſoning in civil Converſation and common diſcourſe.

HItherto we have ſhewn examples of falſe Argumentations in matters of ſcience. But becauſe the principal uſe of reaſon does not conſiſt in acquiring Sciences that are of little uſe for the conduct of well living, wherein it is of dangerous conſequence to be deceiv'd; it will be of much more advantage to conſider generally that which engages men into theſe falſe Judgments which are made of all ſorts of things, and blind men with prejudice in matters cheifly importing manners, and conducing to the Goverment of Civil Life, and are the general Subjects of our Common diſcourſe. But in regard this deſign would require a Treatiſe by it ſelf, which would comprehend almoſt all morality; we ſhall only mark out here in general a part of the cauſes of thoſe falſe Judgments that are ſo common among Men.

We ſhall not here ſpend time in diſtinguiſhing falſe Judgments from bad reaſoning; as well for that falſe Judgments

Judgments are the ſources of bad Reaſonings, which they draw after 'em by a neceſſary Conſequence; as alſo for that there is for the moſt part an Implicite and latent ratiocination in that which to us appears a ſimple Judgment, there being always ſomething that ſerves as a Motive and Principle to that Judgment. For example, when we ſay that a ſtick is crooked in the water, becauſe it ſo appears to us; This Judgment is grounded upon this general and falſe Propoſition, that what appears crooked to our ſences is crooked indeed, and ſo includes a reaſon which does not diſplay it ſelf, generally therefore conſider'd, the cauſes of our Errors may be referr'd to two heads; the one internal, which is the Irregularity of our will, that troubles and diſorders our Judgment; the other External, which conſiſts in the Objects of what we Judge, and which delude our underſtanding by a falſe appearance. Now that theſe cauſes are ſeldom ſeparated; nevertheleſs, there are certain Errors wherein the one diſcovers it ſelf more plainly then the other; and therefore we ſhall treat of 'em a part.

Of the Sophiſms, of ſelf Love, Intereſt and Paſſion.

If we carefully examin why ſome men ſo obſtinately dote, rather upon one Opinion then another, we ſhall find it to be not through any penetration into the Truth, or the force of Arguments, but ſome engagement of ſelf Love, Intereſt or Paſſion. This is the weight that weighs down the Ballance, and which determines the moſt part of our doubts; this is that which gives us the greateſt ſhogg to our Judgments, and ſtops the career of Conſultation.

We judg of things not as they are in themſelves, but as they are in reſpect of us: and Truth and Profit are to us the ſame thing.

We need no other proofs of this, then what we ſee every day, that things in other places generally held for doubtful or falſe, are accounted altogether uncertain by all thoſe of one Nation, Profeſſion, or Order. For it not being poſſible that what is true in *Spain* ſhould be falſe in *France*; or that the underſtanding of the *Spaniards*, that, while both judge of things by the Rules of Reaſon, what generally appears true to the one, ſhould generally appear falſe to the other, it is apparent that this diverſity of Judgment can proceed from no other cauſe then that the one are pleas'd to hold for Truth what is for their advantage, which not being for the intereſt of the other, they have a contrary opinion of it.

Now what is there more unreaſonable, then to take our Intereſt for a Motive to believe a thing? All that ought to be done in ſuch a caſe, is but to conſider the more attentively to us the reaſons that may diſcover to us the Truth of what we deſire ſhould be true. Nor is there any other Truth then this, that ought to be independant from our deſires, which ought to prevail over us. I am of this Country, therefore I muſt believe that ſuch a Saint firſt Preach'd the Goſpel here. I am of ſuch an Order, therefore I believe ſuch an Inſtitution is true. But theſe are no Reaſons. Be of what Order or Country ſoever, we are only to believe what is true, and which we would believe, of whatever Country, Profeſſion or Order ſoever we are.

But

II.

But this Deluſion is now apparent when it happens from change of Paſſions. For tho all other things remain in the ſame condition, yet to them that are provok'd with new Paſſions it ſeems, that the new change that has happen'd in their Deſires, has altered the whole courſe of things, which are any way related to 'em. As we find that there are ſome Perſons, that will not acknowledg any good Quality, either natural or acquired, in thoſe againſt whom they have conceiv'd an Antipathy, or that have in any thing thwarted their Sentiments, their deſires or their Intereſts? Preſently ſuch muſt be traduc'd for raſh, haughty, ignorant, perfidious, faithleſs and void of all Conſcience. Their Affections are no leſs unjuſt and immoderate then their deſires. If they have an Affection to another, he is free from all manner of Faults. All that they deſire is juſt and eaſy, whatever they do not deſire, unjuſt and impoſſible; without alledging any reaſon for theſe Judgments, other then that overrules 'em. So that altho they do not form this rational Argument in their Minds. I love him, therefore he is the moſt accompliſh'd Perſon in the world; I hate him, therefore he is a worthleſs Raſcal; yet they do it in their hearts; and therefore we may call theſe ſorts of Extravagancies, Sophiſms and Deluſions of the heart; whoſe Nature it is to tranſport our Paſſions to the Objects of our Deſires, which we therefore judge to be ſuch as we would have, or deſire they ſhould be. Which is a thing moſt unreaſonable, ſince our Deſires change no-

thing of the *Being* of what is without us; and that there is none but God alone whose will is so all-powerful, that things are always what his pleasure it is, they should be.

III.

We may also refer to this Delusion of self Love that other delusion of those who determin all things by a most general and convenient Principle, *That they have reason and know the Truth.* Whence it is no difficult thing for them to determin, that they who think the contrary are deceiv'd: for the conclusion necessarily follows.

The Mistake of these Persons proceeds only from hence that the good opinion which they have of their Wit causes 'em to deem all their thoughts to be so clear and evident, that they believe the bare propounding 'em to be sufficient to make all the world submit. And for this reason they take little care to bring proofs.

They give little ear to the Reasons of others; they would carry the day by their own Authority; because they make no distinction between their Authority and Reason: They take all Persons for inconsiderate who are not of their Opinion; not considering that if others be not of their Judgments, they themselves are not of the Opinions of others; and that it is not just to suppose without proof, that we have reason, when we make it our business to convince others that differ from us, for no other Reason, but because they believe we are not in the Right.

There

IV.

There are others who have no other ground to reject certain Opinions, then this pleasant Argument, *If it were so*, I should not be a Learned Person, now I am a Learned Person therefore it is so. For this reason, certain past profitable cures in Phisic have been neglected, and so many certain Experiments have been laid aside, because they who had not the good hap to think of 'em, were afraid to be thought to have been so long in an Error, How! say they, if the Blood had any circular Motion in the Body, if the nourishment did not pass to the Liver through the *Mesaraic* Veins. If the Vein Artery conveyed the Blood to the Heart; If the Blood ascended through the descending hollow Vein; if Nature did not dread a *Vacuum*; if the Air were Ponderous and had a Motion downward, I had been ignorant of many important things both in Physick and Anatomy. And therefore these things must not be so. Therefore for the cure of such distemper'd Fancys, there needs but only this wholsome Instruction, that it is a small matter for a man to be deceiv'd, and that they may be learned in other things, tho perhaps not so well vers'd in new discoverys.

V.

There is nothing also more common, then to hear men scurrilously revile one another, and to tax one another of Obstinacy, Passion, and Litigious wrangling, because they cannot agree in their Opinions; and so they that are in the right

and

and they that are in the wrong, talk all the ſame Language; make the ſame complaints, and aſcribe to another the ſame defects; then which there is hardly to be found a greater miſchief among men, and which obſcures Truth and Error, Juſtice and Injuſtice in ſuch a manner, that it is impoſſible for the vulgar ſort of men to diſcern 'em; and hence it happens that ſeveral men adhere at hap hazard, ſome to the one, and ſome to the other, of the two diſſenting parties, and that others condemn both being equally in the wrong.

Now all this Fantaſticalneſs of humour ariſes from this diſtemper, that every one is conceited of his own reaſon. For from that Principle it is eaſy to conclude, that all thoſe that contradict us are opiniatred; ſince obſtinacy is nothing elſe but a ſtubborn refuſal to ſubmit to Reaſon.

Now though it be true, that theſe Reproaches of being Paſſionate, Blind, and Brablers, which are very unjuſt from thoſe that are in the wrong, are juſt and lawful from thoſe that are in the right: nevertheleſs, becauſe the Truth is ſuppos'd to be upon the Upbraider's ſide, prudent and judicious Perſons that handle any matter in Controverſy ought to avoid the uſe of 'em before they have ſufficiently confirm'd the Truth and Juſtice of the Cauſe, which they maintain; and never let them accuſe their Adverſarys of obſtinacy, raſhneſs and want of common Sence, before they have well prov'd it. Let 'em never ſay, before they have made it appear, that they talk abſurdly and extravagantly; For the others will retort as much back again: for this is the way never to come to any iſſue. So that it will be much better to obſerve that equitable Rule of St. *Auſtin*;

Let

Let us omit thoſe common things that may be ſpoken on either ſide, though they cannot be ſpoken truly of either ſide. And then they will think it ſufficient to defend the Truth with thoſe Arms which are moſt proper, and which falſhood cannot borrow, which are clear and ſolid Reaſons.

VI.

Men are not only fond of themſelves, but naturally alſo jealous, envious, and maligners one of another, hardly enduring others to be preferr'd before em, as coveting all advantages to themſelves: and as it is a thing that deſerves great honor to have found out any Truth, or brought any new Light into the world, all men have a ſecret deſire to raviſh that honor to themſelves; which often engages men to encounter the Opinions and Inventions of others without any ſhadow of Reaſon.

And therefore as ſelf Love cauſes us frequently to utter theſe ridiculous ſorts of Reaſoning, This is a thing of my own Invention; this proceeded from ſome of my own Profeſſion; this fits my humour; and therefore it is true. So natural Malignity ſuggeſts another way of Arguing no leſs abſurd. 'Twas another, and not I, that ſaid it, therefore 'tis falſe; 'Twas not I that made this Book, therefore 'tis idle and ſilly.

This is the ſource of the ſpirit of Contradiction ſo frequent among men, which when they hear or read any thing of another man's, they take little heed of the reaſons urg'd for Convincement, and mind only thoſe which they think they can oppoſe. They are always upon the Centry againſt the Truth, and think of nothing but how to repel and obſcure

obſcure it, where they generally prove ſucceſful, the wit of man being an inexhauſtible ſpring of falſe Reaſons.

When this vice predominates, it marks out one of the Principle Characters of Pedantry, whoſe cheifeſt pleaſure and delight it is to brable and wrangle about petty things, and to contradict all men with a mean and abject Malignity. But ſometimes this vice lves more conceal'd then to be eaſily perceiv'd, and it may be affirm'd, that no man is exempted from it, becauſe it is rooted in ſelf love which never dies in Men.

The knowledge of this Malignant and envious diſpoſition which reſides in the Bottom of Mens hearts teaches us one of the moſt important Rules that are to be obſerv'd, for fear of engaging thoſe with whom we diſpute into headlong Error, and alienating their minds from the love of that Truth to which we endeavor to be invite 'em, is this, that is to ſav, as little as may to irretate their envy and jealouſie bv boaſting of a Mans ſelf, or by ſpeaking of other things on which thoſe affections may lay hold.

For men Paſſionately in love with themſelves impatiently brook thoſe honors which are done to other men; whatever they cannot challenge to themſelves is odious and troubleſom, ſo that oftimes from the hatred of the Perſon they fly out into a hatred of his Reaſons and Opinions; and therefore prudent men avoid as much as in 'em lies, the expoſing of their Advantages of parts and endowments to the Eyes of other men, they withdraw from publick view, and fly applauſe; and rather chuſe to lye hid among the croud, to the end that nothing

nothing may appear in their diſcourſes but the bare Truth which they propoſe.

The deceas'd Monſieur *Paſchal* who knew as much of Rhetoric as ever any Perſon living, extended this Rule ſo far, as to affirm that every wiſe man ought to abſtain from ſo much as naming himſelf, or making uſe of the words *I*, or *Me*: and and was wont to ſay upon this Subject, that Chriſtian Piety had aboliſh'd that humane Expreſſion, *I*, which common civility had only before ſuppreſs'd, not that this Rule ought to be ſo exactly obſerv'd neither. For there are ſome occaſions, where it would be a vain Torture, to forbear the mention of a mans ſelf.

But it is good to have this Rule always before a mans Eyes, whereby we may the more eaſily ſhun that evil cuſtom of ſome Perſons, who never talk but of themſelves, and are always quoting themſelves, when there is no queſtion concerning their Sentiments. Which give an occaſion to their Hearers, that this ſo frequent reſpect of themſelves ariſes from a Secret complacency which they bear toward the object of their Love; and raiſes in 'em by a natural conſequence a ſecret averſion for other Perſons, and whatever they ſay.

And this is that which ſhews us, that one of the moſt unworthy Characters of a Perſon of credit is that which *Montaigne* has affected; which is, to entertain his Readers with nothing elſe but his own Humors, his own Inclinations, his own Fancys, his own diſtempers, vertues and vices: all which ariſes as well from a defect of Judgment as from a violent love of himſelf. True it is that he endeavours as much as he can to remove from himſelf the ſuſpi-

tion

tion of a mean and Popular vanity, ſpeaking freely of his defects, as well as of his good Qualities; wherein there is ſomething of comely, through an appearance of ſincerity. But it is eaſy to ſee that all that is but a kind of ſport and Artifice which ought to render him more odious. He ſpeaks of his vices to diſplay 'em to the world, not to cauſe a deteſtation of 'em, not eſteeming 'em any diminution of his honours. He looks upon 'em as things almoſt Indifferent, and rather peices of Gallantry then Ignominy. If he diſcover 'em, 'tis becauſe he thinks they little concern him, and that he beleives himſelf never the worſe, nor more deſpicable for what he has done. But where he apprehends any blot or ſtain of his credit, no man more cunning or diligent to conceal it. For which reaſon an eminent Author of this age very pleaſantly obſerves, that ſeeing he was ſo careful to little purpoſe, to advertiſe us, that he had a Page (who was a ſort of Servant little becoming a Gentleman that had not above ſix thouſand * *Livers Tournois* a year) he did not take the ſame care to tell us that he had a Clerk too, ſeeing he was a Counſeller in the Parliament of *Bourdeaux*. But that employment, though very honourable in it ſelf, was not ſufficient to ſhew the vanity of the man who would rather be thought a Gentleman and a Soldier, then one of the long Robe and a Pleader of Proceſſes.

about 300 *l. per annum.*

However it is very probable he would not have conceal'd that part of his life, could he have found out any Marſhal of *France* that had been a Counſeller of the Parliament of *Bourdaux*, as he was: ſince he is no leſs diligent to Trumpet forth himſelf to have bin Maior of that City, e're he has firſt told us that he

he ſucceeded *Marſhal Byron* and reſign'd it to *Marſhal Matignon.*

But the vanity of this Author is not his worſt crime, he is ſo full of ſhamleſs infamy, ſo abounding in Epicurean and impious Maximes, that 'tis a wonder he has bin ſo long ſuffer'd to be publick in the world, and that ſo many Perſons of great underſtanding have taken ſo little notice of the venome that ſpreads it ſelf in all his writings.

We need no other proofs to judge of his libertiniſm than his manner of repeating his vices. For Confeſſing in his Book that he had bin guilty of ſeveral Criminal Diſorders, he declares nevertheleſs in other parts that he never repented of any, and that if he were to live over his life again, he would again act the ſame things. *As for my ſelf,* ſays he, *I would not deſire in general to be other then I am. I might Condemn my Univerſal Form; I might deſire of God an entire Reformation and to excuſe my natural Infirmities, but I ought not to call this Repentance no more then a diſcontent that I am not an Angel or* Cato. *My Actions are regulated and conformable to what I am and my Condition and repentance do not properly concern us as to thoſe things that are not in our Power. It was never in my thoughts monſter like to tye the tayle of a Philopher to the Head and Body of a Proſligate, nor that the end and remainder of a wretched and miſerable life ſhould accuſe and bely the fair, entire, and longer part of my days. Were I to live 'em over again, I would live 'em as I have don, nor do I complain of what is paſt, nor do I fear what is to come.* Horrible words, and which denote an utter extinction of all thoughts of Religion. But well enough becoming him who thus delivers himſelf in another

Part.

Part. *I plunge my ſelf headlong ſtupidly into Death, as into a ſilent and obſcure Abyſs, which ſwallows me up all at an Inſtant and ſtifles me in a moment, full of powerful ſleep, full of Inſipidaneſs and Indolency; and in an other place Death is no more then a Quarter of an hours ſuffering, without future Conſequence or Harm, and which merits no particular precepts.*

Now though this Digreſſion ſeems remote from the matter, yet it returns again where it left off, for this reaſon, in regard there is no book that more infuſes this evil cuſtom of magnifying a mans ſelf, of making uſe of himſelf and his own thoughts up on all occaſions, and requiring others to do ſo too. Which extreamly corrupts in us our Reaſon and Sence, through that vanity which always accompanys theſe diſcourſes: and in others, through that hatred Antipathy which they have againſt it. Therefore no men are promitted to ſpeak of themſelves, but Perſons of Eminent vertue who teſtifie by their manner of doing it, that they only publiſh their good Actions, onely to excite others to praiſe God, or for their Edification; and if they alſo make their faults publick, it is only to humble themſelves before men, and to diſwade 'em from the like courſes. But for common Perſons it is a Rediculous vanity, to inform others of their petty parts, and an Impudence deſerving Puniſhment to diſcover their Diſorders to the world without the leaſt touch of remorſe, ſince it is the higheſt exceſs of vice neither to bluſh, nor be aſham'd, nor repent of evil actions; but to diſcourſe careleſsly and indifferently of their Impietys, as of other matters; wherein properly conſiſts the excellency of *Montaignes* Wit.

VII. We

VII.

We may diſtinguiſh from malignant and envious contradiction, another Humor l. ſs miſcheivous, but which engages us in the ſame errors of reaſoning, which is the Itch of diſputing, which very much depraves the underſtanding.

Not that Diſputes are to be blam'd in general, rather the contrary is to be affirm'd, provided a right uſe be made of 'em; for ſo there is nothing more ſerviceable, either for the diſcovery of Truth, or to convince others. The motion of a wit altogether buſy'd in the examination of ſome knotty matter, is generally too cold and languiſhing. There is a certain Ardor requiſite to excite and awak'n its *Ideas*. And it frequently comes to paſs, that by diverſity of oppoſition, we diſcover where conſiſts the difficulty of perſwaſion, and the obſcurity of the *Theſis*; which gives us an occaſion to endeavour to overcome it.

But true it is, that as this Exerciſe is profitable, when we make a right uſe of it, diſingag'd from paſſion; ſo it is as dangerous when we make a wrong uſe of it, and glory in maintaining an Argument at what rate ſoever, merely for contradictions ſake. There being nothing more effectual to Eloigne us from Truth, and plunge us into Fegaries and idle humors, then this ſort of humour. Hence we accuſtom our ſelves to ſeek for reaſons every where, or rather to ſet our ſelves above reaſon, to which we ſcorn to ſubmit. Which by little and little leads us to have nothing certain, and to confound Truth with error, looking upon the one and the other, as

equally probable. Which is the reaſon, that it 's a thing ſo rare, that we determin any thing by diſpute, and that it never happens that two Philoſophers agree. We have always ſomething to reply, and wherewith to maintain the Combat; becauſe it was never their intention to avoid the error, but being ſilent; believing it leſs ignominious to be always deceiv'd, then to confeſs themſelves once miſtak'n.

Therefore, unleſs we have accuſtom'd our ſelves by long exerciſe to govern our paſſions, it is a difficult thing not to looſe the proſpect of Truth in Diſputes, there being nothing that more heats and exaſperates all regulated Affections. *What Vice do they not awaken*, ſaith a famous Author, being for the moſt part commanded by choler? We are at enmity firſt with the Reaſons and then with the Paſſions. We learn to diſpute meerly to contradict; and while every one contradicts and is contradicted, it happens that the Fruit of diſpute is the Annihilation of Truth. One goes into the Eaſt, another into the Weſt, they looſe the Principal, and wander in a croud of Incidents; after an hour of Storm and Tempeſt, they know not what they ſeek, one is below, another above, another a one ſide, another lays hold of a word and ſimilitude to carp at, another neither hears nor underſtands any more then that he is oppos'd, and is ſo intent upon his Race, that neglecting his opponent, he purſues himſelf only. There are others, who finding themſelves too weak, fear every thing, refuſe all, confound the diſpute at the Beginning, or elſe in the middle mutinouſly give over, affecting a haughty contempt, or an avoiding of contention inſipidly modeſt.

Another

Another, ſo he may hit his Adverſary, cares not how he lays himſelf open to his Opponent. Another Counts his words, and weighs 'em for reaſons. Another only makes uſe of the advantage of his Voice and his Lungs. And ſome you ſhall ſee, that argue againſt themſelves; and ſome there are that tire and dunny all the world with long Prefaces and uſeleſs digreſſions: And others there are that Porcupine themſelves with Reproaches, and will quarrel like *Dutchmen* in their drink, to ſhear clear of a Perſon that preſſes too cloſe upon 'em in a diſpute. Theſe are the ordinary vices of our Diſputants, which are ingeniouſly deſcrib'd by this Writer, who being ignorant of the true dignity of human Nature, has ſufficiently underſtood the vices and corruptions of it, from whence it is eaſie to judge, how apt theſe contentious diſputes are to diſorder the mind, unleſs a Man be very wary, not only how he falls firſt himſelf into theſe errors, but alſo how he follows others into the ſame ſnares, and ſo to regulate himſelf, that he may be able to obſerve the Fegaries of others, without wandring himſelf from the end which he propoſes, which is the Dilucidation of the Truth.

VIII.

There are ſome Perſons, chiefly in the Courts of Princes, who, knowing how troubleſome and diſpleaſing theſe humours of contradiction are, ſteer a quite contrary courſe, which is to commend and applaud all things indifferently. And this is that which they call *Complaiſance*; which is a humor more commodious for the gaining of prefer-

ment, but altogether as ruinous to the judgment. For as they that ſtudy contradiction, take always for the Truth, the contrary of what is ſpoken; the Complaiſant, admit for truth whatever you ſay to 'em, and this cuſtom corrupts, firſt their Diſcourſe, and then their Underſtanding.

Hence Commendations are become ſo common, and Praiſe ſo promiſcuouſly beſtow'd upon all Men, that we know not what to conclude of the Perſons applauded. What Preacher is there whom the *Gazet* does not extol, for the moſt eloquent of Men, and a Raviſher of his Auditory, through the profoundneſs of his Learning? All that die are Illuſtrious for their Piety. Petty Authors might make whole Books of Elogies, which they receive from their Friends. So that in this exceſſive Prodigality of *Encomiums* made with ſo little diſcretion, we cannot but wonder that Men ſhould be ſo covetous of 'em.

It is impoſſible but that this confuſion in Language, muſt breed the ſame confuſion in Underſtanding, and that they who accuſtom themſelves to praiſe every body, muſt accuſtom themſelves alſo to approve every thing. But though the falſity ſhould be only in the words and not in the mind, yet it ſhould ſerve methinks, to alienate from it, thoſe that ſincerely love Truth. It is not neceſſary to reprove whatever a Man ſees amiſs. But there is a neceſſity of not commending what is truly commendable; otherwiſe we throw thoſe that we thus commend into deluſion: They contribute to deceive thoſe, who judge of theſe Perſons by their praiſes; and they wrong thoſe that merit true praiſe, by making it common to thoſe that deſerve it not; and laſtly

laſtly we deſtroy all Faith of Speech, and confound all the *Ideas* of Words, making 'em ceaſe to be the ſigns of our Judgments and our Thoughts, but only of an outward Civility, which we are willing to pay to thoſe we commend. Which is all that is to be concluded of ordinary Praiſes and Complements.

IX.

Among the ſeveral ways that ſelf-Love plunges Men into error, or rather fixes 'em therein, we muſt not forget one, which without doubt is one of the Chiefeſt and moſt common. That is, the engaging a Mans ſelf to maintain an opinion, to which a Man is urg'd by other conſiderations, then thoſe of Truth. For this condition of defending an Argument cauſes ſuch a negligence, that we never regard the reaſons which we make uſe of whether they be true or falſe, but whether they may be ſerviceable to perſwade what they go about to maintain. To this purpoſe they make uſe of all ſorts of Arguments good or bad; that ſomething may be ſaid, to impoſe upon all the world. And ſometimes we proceed ſo far, as to utter things which we know to be abſolutely falſe, to the end that they may ſerve to the end which is propos'd. Of which we ſhall produce ſome examples.

No intelligent Perſon ſuſpects that *Montaigne* ever believ'd all the Dreams and Extravagancies of judicial Aſtrology. Nevertheleſs when he thinks it proper to make uſe of 'em, in contempt of Human Nature, he produces 'em as good Reaſons, *When we conſider*, ſays he, *the Dominion and Power which*

theſe Bodies have not only over our Lives, and the conditions of our Fortune, but over our Inclinations themſelves, puſh'd forward at the mercy of their Influencies, why ſhall we deprive 'em of a Soul, of Life and Diſcourſe?

Will he deſtroy the Priviledge that Men have over Beaſts, by the Commerce of Speech? He tells us ridiculous Tales, of which he knows the extravagancy as well as any man, and yet from thence draws more ridiculous Concluſions. *There are ſome*, ſaid he, *that have boaſted their underſtanding the Language of Beaſts, as* Apollonius, Thyaneus, Melampus, Tyreſias, Thales; *and ſince, as ſome Coſmographers affirm, there are Nations that acknowledg a Dog for their King, they muſt of neceſſity underſtand his Barkings, and interpret his geſticulations.*

From this reaſon we may conclude, that when *Caligula* made his Horſe Conſul, there was a neceſſity for his Officers to underſtand the Orders which he gave in the exerciſe of his charge. But we wrong *Montaigne*, to accuſe him of this bad conſequence. His deſign was not to ſpeak rationally, but to make a confuſ'd Collection of what could be ſaid againſt Men; which however is a vice altogether contrary to the Equity of Reaſon, and the Candor of Ingenuity.

As inſufferable is another Argument of the ſame Author, upon the Subject of the Heathen Southſayers. *Of all the Predictions of times paſs'd, the moſt ancient and the moſt certain were thoſe which were taken from the flight of Birds. We have nothing comparable to it, nor ſo admirable. But this regular and orderly motion of the wing, from whence they drew the knowledge of future Conſequences, muſt be conducted by ſome*

ſeme excellent means, to ſo noble an operation. But to aſcribe this wonderful effect, without the conſent, underſtanding and diſcourſe of him, by whom it is produc'd, to the Laws of Nature is a madneſs, and the opinion is evidently falſe.

Is it not a very pleaſant thing to ſee a Man, who believes nothing to be evidently true, or evidently falſe, in a Treatiſe expreſly compoſs'd to eſtabliſh *Pyrroniſm*, and to deſtroy evidence and certainty, ſeriouſly expoſing theſe raving fancies, for certain truths, and condemning the oppoſite opinion for evidently falſe? But he only laughs at us, when he prattles in this manner, and is inexcuſable for impoſing thus upon his Readers, obtruding things upon 'em which he does not believe himſelf, and which it were a folly to believe.

He was without doubt as good a Philoſopher as *Virgil*, yet did not he aſcribe to the Intellect of Birds, thoſe regular alterations which we ſee in their Motions according to the various Conſtitution of the Air, from whence we make Conjectures concerning the future temper of the Sky, as may appear by the following verſes in his *Georgics*.

Non equidem credo, quia ſit divinitus illis
Ingenium, aut rerum fato prudentia major;
Verum ubi tempeſtas, & Cœli mobilis Aer
Mutavere vias, & jugiter humidus auſtris
Denſat erantque rara modo; & quæ denſa relaxat.
Vertuntur ſpecies animorum, ut corpora motus
Nunc hos, nunc alios, dum nubila ventus egebat
Concipiant, hinc ille avium conſentus in agris
Et lætæ pecudes, & ovantes gutture corvi.

But for the avoiding theſe whimſeys, when they are ſpontaneous, a little ingenuity ſuffices. The moſt common and moſt dangerous are thoſe, which we take no heed of, becauſe our prejudic'd obligation to defend an opinion, diſturbs the ſight of the mind, and cauſes it to take for truth, whatever ſerves for that end; and the only cure for this diſtemper is, to have no other ends but the diſcovery of truth it ſelf, and diligently to examin the reaſons themſelves, that ſo the obligation may not impoſe upon us.

Of falſe reaſonings that ariſe from the objects themſelves.

We have already obſerv'd, that we muſt not ſeparate the internal cauſes of errors, from thoſe which are deriv'd from Objects, which we may call exterior; in regard the falſe appearance of Objects, can never throw us into error, if the will did not precipitate the underſtanding to judge raſhly, before the Truth of the thing be ſufficiently clear.

But becauſe it cannot exerciſe this authority in things entirely evident, it is viſible that the obſcurity of ſubjects contributes much thereto, and many times there are accidents, where the paſſion that carries us to reaſon amiſs, is hardly to be perceiv'd, and therefore it is of great importance to conſider ſeparately the fallacies that ariſe cheifly from the ſame things.

I.

It is a fallacious and impious opinion, that Truth ſo

ſo nearly reſembles Falſhood, and Vertue Vice, that it is impoſſible to diſcern 'em. But it is no leſs true, that in moſt things there is a mixture of Error and Truth, of Vice and Vertue, of Perfection and Imperfection; and that this mixture is one of the moſt uſual ſources of falſe judgments among Men.

Through this deceitful mixture it is, that the good qualities of Perſons, for whom we have a reſpect, cauſes us to approve their defects; and the defects of thoſe for whom we have no kindneſs, cauſe us to condemn their vertues, in regard we do not conſider, that perſons the moſt deprav'd, are not ſo in every thing, and that God leaves ſome Imperfections in the moſt vertuous; which being the remains of human Infirmity, ought not to be the object of our imitation nor eſteem.

Therefore Juſtice and Reaſon require, that in all things where there is this intermixture of good and evil, that we ſhould make a diſtinction, and it is in this judicious ſeparation, that the exactneſs of our underſtanding appears. By vertue of this, the Fathers of the Church have extracted out of the Writings of the Heathens, thoſe excellent things in reference to manners, and that St. *Auſtin* has not ſcrupl'd to borrow from a *Donatiſt Heretic*, ſeven Rules for the underſtanding of Scripture.

Therefore reaſon obliges us, when it is in our Power, to make this Diſtinction. But becauſe we have not always leiſure to examine particularly, what there is of good or ill in every thing, it is but juſt upon ſuch occaſions, to give 'em the name which they deſerve, and which agrees with their moſt conſiderable part. Thus we ought to ſay a

Man

Man is a good Philoſopher, when he uſually reaſons well; and that a Book is good, when there is much more in it of truth then falſhood.

There is alſo another thing wherein Men are greatly deceiv'd when they make general Judgments of things. For oftimes they only blame or eſteem ſuch things which are moſt ſuperficial and acceſſory; their want of Underſtanding not permitting 'em to penetrate the principal Matter, as not being ſo obvious to the Sence.

Thus altho' they who have skill in Painting, eſteem infinitely more the deſign then the colours or curioſity of Painting, yet the Ignorant are more taken with a Painting, whoſe colours are brisk and lively, then with a cloudy Pencil tho the deſign be never ſo Incomparable.

We muſt acknowledg however that falſe Judgments are not ſo frequent in Arts; becauſe the Ignorant more eaſily comply with the Judgment of thoſe that are Skillful. But they are frequent in ſuch things where the People take a Priviledg to judg, as of Eloquence.

For example, we call a Preacher Eloquent, when his Cadencies are juſt, and that he makes uſe of no bad words. Upon which ſcore, Monſieur *Vauglas* affirm'd that one bad word does a Preacher or a Pleader at the Bar more Injury then a bad Argument. For it is to be believ'd that he relates a matter of Fact, not an opinion of his own Authoriſing, it being certain that there are Perſons who judg after this manner; tho' it be as certain on the other ſide that there is nothing more remote from Truth then theſe ſorts of Judgments. For purity of Language, and number of Figures in an Orator are no

no other in Eloquence, then the ſhadows of Colouring in Painting; that is to ſay that it is only the lower and material part; the principal deſign of Oratory being to conceive things ſtrongly and clearly in the Mind, and being conceiv'd to expreſs 'em in ſuch a manner, that they may imprint in the Breaſts of the Hearers a clear and lively Image of the things expreſs'd, which not only repreſent the things barely as they are, but alſo the Motions and affections with which they are conceiv'd. And this is that which may be found in perſons not ſo diligent in ſorting their words, and adjuſting their Figures; but is rarely ſeen among thoſe who are over-curious in ſtreining their words and ſimilitudes; for that ſame curioſity calls off their minds from the conſideration of Realties, and weakens the vigour of our thoughts, as Painters obſerve, that they who are excellent for Colouring, are ſeldom good Deſigners; the mind not being capable to ſtudy two things at once, and the one diſturbing and hindring the other.

And indeed we may ſay in general that the moſt part of the World judges of things by the outward appearance; for there are hardly any that penetrate the inſide and bottom of things. The Rule of all Judgment is the Title, and woe be to them whoſe Title diſpleaſes. Be a Man a Learned, as Prudent, as perſpicatious as he pleaſes, if he falter in his Language, and does not anſwer accurately to an officious Complement, he is undone for the whole Remainder of his Life, and condemn'd to live deſpiſed among the Vulgar. 'Tis no great matter to want due Praiſe; but the greateſt thing is to inſiſt upon theſe prejudices, and to look no farther

farther then the back of things; and this is that we ſhould endeavour to avoid.

II.

Among the cauſes that engage us in Error, through a falſe Luſtre that hinders us from diſcerning it, we may juſtly reckon a certain pompous and Magnificent ſort of Eloquence, which *Cicero* calls abounding in ſounding words and copious Sentences. For it is a wonderful thing how falſe Reaſoning ſteals away our aſſent with a Period that tickles the Ear, or a ſurprizing Figure that ſets all the Hearers a gazing.

Theſe Embelliſhments not only rob us of the Proſpect of thoſe Falſhoods which are intermix'd in diſcourſe; but inſenſibly allure us to others, becauſe they ſeem neceſſary for the more curious Compoſure of the Period or Figure. So that when we ſee an Orator begin a long Gradation, or an Antitheſis of ſeveral Members, we ought to ſtand upon our Guards; for it rarely happens that he gets quit of 'em, without wreſting and ſcrewing the Truth, to make it conformable to this Figure. He orders the ſame truth as they do Stones in a Building, or the materials for a Statue, he cuts and extends it, fore-ſhortens it, and diſguiſes it to make it fit for the place which he deſigns it, in his vain piece of Workmanſhip and ſtructure of words.

How many falſe thoughts has the deſire of maintaining a nicety produc'd? How many Lies has the Law of *Rhime* begot? The great affectation to make uſe of none but *Ciceronian* words, and that which they call pure *Latin*; of how many abſurdities has it

it made ſeveral *Italian* Authors guilty? Who would not laugh to hear *Bembo* cry that the Pope was Elected by the favour of the Immortal Gods? *Deorum Immortalium beneficiis.* There are alſo certain Poets that Imagine it to be eſſential to Poetry, to introduce the Pagan Divinities into their Poems; and thus a certain German Poet, being deſervedly reprov'd by *Picus Mirandula*, for having introduc'd into a Poem which he made of the Wars of the Chriſtians, all the Pagan Divinities, and intermix'd *Apollo*, *Diana* and *Mercury* with the Pope, the Emperor and the Electors, maintains that had he not ſo done, he had been no Poet; and to prove his aſſertion alledges for a ſtrange Reaſon, that the verſes of *Heſiod*, *Homer* and *Virgil*, are full of the Names and Fables of the Gods. Whence he concludes it lawful for him to do the ſame.

Theſe falſe arguments are imperceptible to thoſe that make 'em, and deceive them firſt of all. They are dizzied with the ſound of words; and the Luſter of their Figure dazles 'em, and the pomp of certain words allures 'em unawares to thoughts ſo vain and frivolous, that if they did but make any reflexion upon 'em, they would certainly reject 'em themſelves.

Is it credible that a Writer of this age ſhould be ſo in Love with the word *Veſtal*, as to uſe it in an Argument to perſwade a young Lady not to be aſham'd to learn the Latin Tongue, telling her that ſhe need not be aſham'd to ſpeak a Language which the *Veſtals* ſpoke. For had he weigh'd the force of his Argument, he could not but have apprehended that he might as well have told the Lady, that ſhe needed not be aſham'd to ſpeak a Language, which

which all the *Roman Curteſans* ſpoke, who were far more numerous then the *Veſtalls*; or that ſhe needed not to be aſham'd to ſpeak any other Language then that of her own Country, ſince the *Veſtalls* ſpake no other. All theſe Arguments that ſignify nothing, are as good as any that Author brings; and the truth is, the *Veſtalls* can do him no Service to juſtify or condemn ſuch young Ladies that learn Latin.

Such falſe Reaſonings as theſe which we meet with frequently in the writings of ſuch Authors as affect Eloquence, make it appear how much it concerns thoſe perſons that ſpeak or write, to keep cloſe to that excellent Rule, that there is nothing *lovely but what is true*; which would prune off an infinite number of falſe thoughts, and vain Embelliſhments from their Writings. True it is that this exactneſs renders the ſtile leſs Pompous, and more Barren; but it renders it more lively, more ſerious, more clear, and more becomming a candid Ingenuity: It makes a deeper Impreſſion, and more durable. Whereas that which ariſes from Periods adjuſted, is ſo ſuperficial, that it vaniſhes almoſt as ſoon as the Periods are heard.

III.

There is another fault very frequent among Men, to judg rathly of the Actions and Intentions of others, which is occaſioned by a falſe Reaſoning, by means of which, not diſcerning all the cauſes that may produce ſome effect, we attribute the effect preciſely to one cauſe, when it may have been produced by ſeveral others. Or elſe we ſupoſe that a cauſe

cauſe, which by accident has one effect at one time, as being join'd to ſeveral Circumſtances, ought to have the ſame Effect at other times.

Suppoſe ſome Learned man be of the ſame opinion with a Heretic in ſome matter altogether diſtinct from things controverted in Religion; preſently ſome malicious Adverſary will conclude, that he has a kindneſs for Heretics; but he may conclude raſhly and maliciouſly, becauſe that perhaps only Reaſon and Truth confirm him in his Opinion.

Suppoſe ſome Writer ſhould vehemently inveigh againſt any opinion that he thinks dangerous; ſome will accuſe him of hatred and Animoſity againſt the Author that maintain'd it, but unjuſtly and raſhly; in regard this vehemence may ariſe from Zeal for Truth, as well as from hatred againſt the Perſons.

Suppoſe a Man be a friend to a wicked Perſon; ſome preſently will conclude him to be an accomplice with the other in his Crimes; which does not follow, ſince he may be ignorant of 'em; at leaſt he may never have giv'n his conſent.

Some Perſon may have fail'd in paying that reſpect which he ought to have done where it was due. This Man, cry they, is proud and Inſolent; when perhaps it may be only Inadvertency, or bare forgetfulneſs.

All exteriour things are only equivocal ſigns, that is to ſay, ſuch as may ſignifie ſeveral things, and therefore it will be raſhneſs in him to determine this ſign to any particular thing, without ſome particular Reaſon. Silence is ſometimes a ſign of Modeſty and Judgment, ſometimes of a Brute. Delay and Heſitation ſometimes denotes Prudence, ſome-

ſometimes dulneſs of Mind. Change is ſometimes a ſign of Inconſtancy, ſometimes of Sincerity. So that it is a point of ill-reaſoning to conclude a Man inconſtant, meerly becauſe he has chang'd his Opinion, for he may have reaſon ſo to do.

IV.

False Inductions by which we draw from general Propoſitions particular Experiments, are one of the moſt common Sources of falſe Reaſoning among Men. We need not above three or four Examples to form an Axiom, and common Place; of which we may afterwards make uſe as of a Principle to decide all things.

There are many Diſeaſes that are conceal'd from the moſt able Phyſitians, ſo that Remedies are many times of little Efficacy. From hence ſome Hotſpurs conclude, that Phyſic is altogether unprofitable, and all Phyſitians no better then Mountebanks.

There are ſome Women wanton and unchaſt. This is enough for thoſe that are jealons to have an ill opinion of thoſe that are chaſt and honeſt, and for licentious Authors to condemn all in general.

There are ſome Perſons that conceal great vices under a ſhew of Piety; from whence *Libertines* conclude that all Devotion is Hipocriſy.

There are ſome things obſcure and conceal'd, and we are ſometimes groſly miſtaken; therefore ſay the ancient and new *Pyrrhonians*, all things are obſcure and uncertain, and we cannot certainly diſcern the truth from falſhood.

There

There is an inequality among the actions of ſome Men; this is ſufficient to frame a common Place, out of which no Man ſhall be excepted. *Reaſon*, ſay they, *is ſo defective, and ſo blind, that what things are accompted moſt clear, are yet to Reaſon obſcure; Eaſy and Difficult are the ſame things, all Subjects equally, and Nature in general, diſavows its Juriſdiction. We think of nothing that we have a Will to, but at the very Inſtant we have a Will to it; and we will nothing freely, nothing abſolutely, nothing conſtantly.*

The greateſt part of the World pronounce the Vertues and Vices of others only in general and Hyperbolical Terms. Out of which particular acts they infer Habit; out of three or four defaults Cuſtom. That which happens once a Month, or once a Year happens every day, every hour, every moment in the Diſcourſe of Men. So little care do they take in their Words, and the Bounds of Verity and Juſtice.

V.

'Tis a piece of Weakneſs and Injuſtice, often condemn'd and little avoided, to Judg of Counſels by events, and to render guilty of all the bad enſuing Conſequences, thoſe who have taken a prudent Reſolution according to all the Circumſtances which they could foreſee; either through the bare chance or malice of thoſe that croſs'd 'em, or through ſome other Accidents which they could not poſſibly foreſee.

Men not only live to be as fortunate as wiſe, but they make no difference between fortunate and wiſe, nor between unfortunate and wicked. This diſtinc-

on they look upon as too nice. We are ingenious to find out the defects that we believe occasion'd our bad success. And like Astrologers when they are certain of an Accident, fail not to find out the Aspect of the Star that produc'd it. In like manner after Calamities and Misfortunes, we never fail to pass our Censures upon the Person, that he deserv'd 'em by his Imprudence. He did not succeed, therefore he was in the wrong. Thus they reason in the World, and thus they have always reason'd; because the Judgments of Men have always wanted the guidance of Equity, and for that not knowing the true Causes of things, they substitute others according to the Events, extolling the successful, and condemning the Unfortunate.

VI.

But there is no so sort of false Reasoning more frequent then when we judg rashly of the Truth, by vertue of such an Authority which is not sufficient to assure us; or when we decide the bottom of things by the manner of their being Propounded. The one is call'd a Sophism of *Authority*, the other a Sophism of the *Manner*.

That we may understand how frequently we fall into these Sophisms we need only consider, that the most part of Men never believe one opinion more then another, upon solid and essential Reasons, which would display the Truth, but upon certain outward marks, which are more agreeable, or at least seem more agreeable to Truth then Falshood.

The reason is, that the internal verity of things lies frequently conceal'd; that the Understandings of

of Men are weak and dark, full of Clouds and falſe Lights, whereas the external marks are clear and perceptible. So that Men being more eaſily inclin'd to what is moſt facile, they always take that ſide where they ſee the external marks that are eaſily diſcernable.

They may be reduc'd to two principal Heads, the Authority of the Propounder, and the manner of Propounding. And theſe two ways are ſo powerful, that they draw after 'em the Aſſent of almoſt all underſtandings.

And therefore God who deſign'd, that the certain knowledge of the Myſteries of Faith, might be acquir'd by the meaneſt capacities, among the Faithful, vouchſaf'd to condeſcend to the Infirmity of Human Underſtandings, which he would not therefore have depend upon a particular examination of the points, which are propos'd to us to believe, but has given us for a certain Rule, the Authority of the Univerſal Church, which is the Propoſer of theſe Articles; which being clear and undoubted, retreives our underſtandings from that *Laberynth*, where particular diſcuſſions of Myſteries, would of neceſſity engage it.

Therefore in matters of Faith, the authority of the Univerſal Church is entirely deciſive; and ſo far it is from being ſubject to error, that we never fall into error, but when we wander from its authority, and refuſe to ſubmit to it.

We alſo draw convincing Arguments in mattets of Religion, from the *manner* of their being propounded.

For example, when we find that for theſe many Ages of the Church, eſpecially in theſe latter ages,

that ſo many perſons have endeavour'd to eſtabliſh their opinions by Fire and Sword, when we have ſeen 'em arm'd againſt the Church with Schiſm, againſt the Temporal Magiſtrate, with Rebellion; when we have ſeen People without ordinary Miſſion, without Miracles, without any marks of Pietv, but rather with ſenſible marks of Impiety, undertake to change the Faith and Diſcipline of the Church, ſuch a criminal manner of propounding is more then ſufficient, to cauſe all rational Perſons to reject the thing propounded, and to prevent the meaner ſort from liſtening to ſuch Arguments.

But in things the knowledge of which is not abſolutely neceſſary, and where God has left every Man to his own particular reaſon, Authority and Manner of propounding, ſerve only to engage ſeveral Perſons in judgment contrary to the Truth.

We do not undertake here to give Laws and preſcribe Rules and preciſe Limits of that reſpect which we owe to Authority in Human Things; but to mark out ſome groſs miſtakes that are committed, touching this matter.

Sometimes we only regard the number of Teſtimonies, not conſidering whether number be the moſt probable Argument that we have found out the Truth. For as an Author of this age has obſerv'd in difficult things, Truth diſcovers it ſelf to one, ſooner then to many. Therefore this is no good Conſequence; This opinion is upheld by a great number of Philoſophers, therefore it is true.

Sometimes we are perſwaded by certain qualities and endowments of Men, which have no coherence with the truth of things which are diſcours'd of. Thus there are a great number of People that believe

lieve without any other examination, thoſe that are more aged and have more experience; tho the things believ'd, neither depend upon age nor experience, but the acuteneſs of underſtanding.

Piety, Wiſdom, Moderation are without doubt qualities the moſt to be eſteem'd in the world, and there is a great Authority due to ſuch perſons, in things that depend upon Piety, Sincerity, and an Illumination from God, probably more particularly conferr'd upon thoſe that ſerve him moſt purely. But there are an infinite number of things that only depend upon human Intellect, human Experience, and human Penetration. In which things, they who have the greateſt advantages of wit and ſtudy, merit more belief then others. Nevertheleſs the contrary often happens, and moſt Men think it moſt ſafe to follow in the ſame, the opinion of the greateſt number.

Which comes to paſs in part from hence, that theſe advantages of wit are not ſo conſpicuous, as the exterior Regularity, which appears in Perſons of Piety, and partly for that Men never care to make diſtinctions. Theſe diſtinctions confound 'em; ſo that they will have all or nothing. If they give credit to any Perſon in ſome things, they believe him in all things; if they give no credit to another Man, they believe him in nothing. They love thoſe ways that are ſhort, deciſive and compendious. But this humour, though uſual, is contrary to reaſon; which ſhews us, that the ſame Perſons do not merit belief in all things, becauſe they are not eminent in all things, and that it is a deprav'd mode of concluding. This is a grave perſon, therefore he is intelligent and learned in all things.

VII.

True it is that there are ſum pardonable errors, ſuch as are thoſe, when we give a greater Reſpect, to the Opinions of thoſe whom we eſteem to be men of Credit. But there is one deluſion, much more abſurd in it ſelf, and which is nevertheleſs very frequent; which is to believe that a Man ſpeaks Truth, becauſe he is a Perſon of Quality, Rich, and advanc'd in Dignity.

Not that any Perſon expreſly makes theſe concluſions, He has a Hundred Thouſand Livers a year, therefore he is wiſe. He is nobly deſcended, therefore we muſt believe what he ſays to be true. Such a one is a Perſon of no Eſtate; therefore he is in the wrong. Yet ſomething like this prevails in the minds of the moſt part of the world, and which carries away their judgments, without any other conſideration.

Let the ſame thing be propos'd by a Perſon of quality, and a Man of mean condition, they will approve what the Perſon of Quality utters, when they will not vouchſafe to hear what the other offers. The Scripture inſtructs us, touching this humour of Men, perfectly repreſenting it to us in the Book of *Eccleſiaſticus*. *When the Rich Man ſpeaks all Men are ſilent, and extol his words to the Clouds: if a poor Man ſpeaks, they cry who is that?*

Certain it is, that complacency and flattery have a great ſhare in the approbation which is given to the actions and words of Perſons of Quality, and which oft-times they draw to themſelves by a certain ex-

external Grace, and manner of Behaviour, noble, free and natural. Which is ſometimes ſo peculiar to themſelves, that it is hardly to be imitated by thoſe who are of a low and mean Birth. But as certain it is, that there are alſo ſeveral, who approve all that great Men ſay and do, out of an inward proneneſs of Spirit, which bows under the burden of Grandeur, and which has not a ſight ſtrong enough to abide its Luſter; and that the exterior Pomp which environs thoſe great Men, impoſes not a little, and makes ſome impreſſion upon the more prudent ſort.

The reaſon of this deception, proceeds from the Corruption of the Heart of Man, who having a burning paſſion for honour and pleaſure, neceſſarily conceives a great love for Wealth and Riches, and thoſe other qualities whereby they acquire both pleaſures and honour. Now the Love which they have for all theſe things that the World admires, is the reaſon that they are eſteem'd happy who enjoy 'em; and judging them happy, they place thoſe Perſons above themſelves, and look upon 'em as eminent and exalted. Which cuſtom inſenſibly glides from the conſideration of their Fortunes, to the conſideration of their Minds. Men do not uſually do things by halves. And therefore they give the Rich and Potent a Soul as exalted, as their condition; and this is the reaſon of that great credit, which they meet with in all Affairs, that they manage.

But this deluſion is much more prevalent in the great ones themſelves, who are not careful to correct that impreſſion, which their fortune naturally makes in their minds, as well as in the minds of their Inferiors. For there are few of 'em, with

whom Riches and Dignitys have not the weight of Reaſon, and who do not believe that their opinions and judgments are ſuperior to the judgments of thoſe that are beneath 'em. They cannot brook that Perſons whom they look upon with contempt, ſhould pretend to have ſo much reaſon and judgment as they. And this is that which makes 'em ſo impatient of the leaſt contradiction.

This proceeds from the ſame ſource, that is, from the falſe *Ideas*, which they have of their *Grandeur*, their Nobility and their Wealth. Whereas they ſhould conſider 'em, as things entirely Strangers to their *Being*; and which are no grounds for them to believe, but that they are equal to all the reſt of Mankind, both in Body and Soul, but that their judgments are as weak, and as apt to be deceiv'd, as the judgments of other Men. They incorporate, as it were in their Eſſence, all theſe qualities of Great, Noble, Rich, Maſter, Lord, Prince; they magnifie their *Idea*, and never repreſent themſelves to themſelves, without all their Titles, and all their Train of ſplendor.

They accuſtom themſelves from their Cradles, to look upon themſelves as diſtinct from the reſt of human Race: Their Imaginations never intermix with the common crowd of Men. They are always *Counts* or *Dons* in their own Eyes, never meer Mortals; and ſo they cut a Soul and a Judgment, according to the Propoſition of their Fortune. And believe themſelves no leſs above others in their Underſtanding, then they towre above 'em in Wealth and Dignity.

The

The Folly of Men is ſuch, that there is nothing of which they do not make uſe to aggrandize the *Idea*, which they have of themſelves. A ſumptuous Houſe, a Magnificent habit, and a great Perriwigg makes him eſteem himſelf more learned then others; and if we take a nearer obſervation, we ſhall find, that ſome believe themſelves wiſer a Horſeback or in a Coach, then a Foot.

'Tis an eaſie thing to perſwade the world, that there is nothing more ridiculous then thoſe judgments; but it is a difficult thing to exempt 'em from the ſecret Impreſſion, which theſe exterior things, make in the mind. All that can be done, is to accuſtom our ſelves as much as in us lies, not to give any Authority to any of theſe qualities that do not contribute to the finding out of Truth: Nor to them neither, farther then as they contribute effectively. Age, Knowledge, Study, Experience, Wit, Vivacity, Moderation, Accurateneſs, Labour, ſerve to find out the Truth of things conceal'd, and ſo far theſe qualities deſerve to be reſpected. But they are diligently to be weigh'd, and afterwards to be compar'd with contrary Reaſons. For from any of theſe things in particular, there is nothing to be concluded of certainty; ſince there are falſe opinions that have been approv'd by Perſons of great wit, and endow'd with the greateſt part of theſe good qualities:

VIII.

There is yet ſomething more deceitful in the ſurprizes which ariſe from the manner. For we are naturally enclin'd to believe that Man has reaſon, who

who ſpeaks with a Grace, fluently, with gravity, with moderation, and ſweetneſs, and to believe that Perſon in the wrong that ſpeaks raſhly, paſſionately, invectively, and with preſumption in his actions and his words.

Nevertheleſs, if we judge not to the bottom of things, but by theſe exteriour and ſenſible manners, it is impoſſible but that we muſt be often deceiv'd. For there are ſome Perſons that utter their follies gravely and modeſtly, and others o'the contrary, who being naturally briſk and airy, or leſs govern'd by ſome paſſion that appears in their Geſtures and Words, have no leſs truth however on their ſide. There are ſome Men of mean and ſuperficial capacities, who having been bred at Court, where they more diligently ſtudy and practiſe the Art of Complacency, then in other places, have acquir'd manners that are very pleaſing, under which they make paſs for currant many falſe judgments, while others not having thoſe outward embelliſhments, ceaſe not however to have large Intellects, and ſolid at the bottom. There are ſome who ſpeak better then they think, and others who think better then they ſpeak. And therefore reaſon requires, that they who are capable ſo to do, ſhould not judge by exterior appearances, but always ſubmit to Truth, not only when it is propos'd after theſe harſh and unpleaſing, but alſo when it is intermix'd with innumerable falſities. For the ſame Perſon may ſpeak Truth in one thing, and falſe in another; be right in this, in that wrong.

We are then to conſider every thing apart, that is, we muſt judge of the *manner* by the *manner*, of the *thing* by the *Thing*; not of the *thing* by the

manner

manner, nor of the *manner* by the *thing*: If a Man ſpeak paſſionately, he is to be blam'd, but to be applauded, if he ſpeak truth. On the other ſide a Man is to be commended for ſpeaking prudently and moderately, but to be blam'd if he utter falſhood.

But great care is to be taken, leaſt we conclude any thing to be true or falſe, becauſe it is propos'd after ſuch or ſuch a manner. It is but juſt alſo, that they who deſire to perſwade others into a belief of ſome Truth which they have found out, ſhould endeavour to cloath it in the moſt graceful form, which is moſt proper to cauſe it to be approv'd, and to avoid thoſe irkſome manners that only ſerve to alienate the mind.

We muſt alſo remember, that when we intend to perſwade, 'tis not of ſo much importance to ſpeak Truth; but that it is of the greateſt importance when we ſpake Truth, to ſpeak only thoſe things that are neceſſary to make Truth delectable.

They that honour Truth, will not diſhonour it, by covering it over with the contaminations of falſhood. And if they love it ſincerely, they ought not to draw upon it, the hatred and averſion of Men, by delivering it in a manner ungrateful. This is the greateſt precept of *Rhetoric*, therefore the more uſeful; becauſe it ſerves to regulate the Soul as well as our words. For though they be two different things, to be wrong in the manner, and Thing, nevertheleſs the Vices of the *manner* are more pernicious then the vices of the Thing.

And indeed all thoſe fiery, inſolent, bitter, opiniated paſſionated manners, proceed from ſome Irregularity of the mind, which is many times worſe then

then the defect of intellect and knowledge which we reprove in others, and it is always unjuſt to think to perſwade Men in that manner. For it is juſt that they ſhould ſubmit to truth wnen they know it, but it is unjuſt that they ſhould exact from others, to hold that for Truth which we believe, upon the ſole ſcore of our Authority. Yet this is that which they do, when they propoſe Truth after thoſe unpleaſant manners. For the Air of the Diſcourſe enters our minds together with the Reaſons. The mind being more quick to perceive that Air, then to apprehend the ſolidity of the Proofs, which many times they underſtand not at all. Now the Air of the Diſcourſe being thus ſeperated from the Proofs, denotes only the Authority which he that ſpeaks attributes to himſelf. So that if he be eager and imperious, he alienates the minds of his auditors; becauſe it ſeems, as if he would carry by his Authority and a kind of Tyranny, what he ought to obtain by reaſon and perſwaſion.

This Injuſtice is much greater, when it makes uſe of theſe diſpleaſing manners, to combat and overthrow opinions commonly receiv'd. For the reaſon of a particular Perſon, may be preferr'd before that of ſeveral, when it is moſt in the right, but no private Perſon ought to pretend his Authority to be more prevalent then the judgment of all others.

So that not only Modeſty and Prudence, but Juſtice it ſelf, obliges us to an humble and ſubmiſſive Air of Reaſoning, when we combat commonly receiv'd opinions or a confirm'd Authority; otherwiſe that Injuſtice can never be avoided of oppoſing private to public and univerſal Authority, or at leaſt the chiefeſt and beſt eſtabliſh'd. We cannot ſhew

too

too much moderation; when we go about to trouble the poſſeſſion of a receiv'd opinion, or a belief that has been fix'd time out of mind; which is ſo true, that St. *Auſtin* extends the ſame to the Verities of Religion; having given this excellent Rule to all thoſe that are oblig'd to inſtruct others.

See, ſaith he, *what method the Prudent and Pious Catholic Teachers take, in what they are bound to teach others. If they are things common and authoriz'd, they propoſe 'em after a moſt aſſur'd manner, and which teſtifies nothing of doubt, yet with all the ſweetneſs and mildneſs imaginable. But if they be things which are extraordinary, though they are ſuch things which they clearly know to be true, yet they rather propoſe 'em as doubtful queſtions, and to be examin'd, then as Axioms and Maxims, that in this they may condeſcend to the infirmity of the Auditors. Or if it be a Truth ſo ſublime, that is, above the reach of thoſe to whom it is propounded, they rather chuſe to ſuppreſs it for ſome time, that their Hearers may have time to encreaſe their knowledge and enlarge their capacities, then to diſcover it to 'em, in the height of their weakneſs, when it would but amaze and ſtupifie their underſtandings.*

The End of the Third Part.

LOGIC;
OR THE
ART
OF
THINKING.

Part IV.

Concerning METHOD.

IT remains for us to discourse, touching the Fourth part of Logic, which concerns Method, which without doubt is the most profitable and important part. We thought it requisite to insert into this part, that which relates to Demonstration; which does not usually consist in any one single Argument, but in a Series of several Syllogisms, by which we invincibly prove some certain Truth; and for that it is of little use in Demonstration

ſtration to know the rules of Syllogiſms, wherein we ſeldom fail; but the main buſineſs is for a Man to diſpoſe his Thoughts in good order, making uſe of thoſe which are moſt clear and evident, to penetrate into what ſeems moſt occult and conceal'd.

And becauſe that Knowledg is the end of Demonſtration, it will be neceſſary to ſpeak ſomething of it in the firſt place.

CHAP. I.

Of Knowledg, that there is ſuch a thing, that the Knowledg of things by the Mind is more certain then what we know by our Senſes, that there are ſome things of which Mans Underſtanding is uncapable. The advantage of this neceſſary Ignorance.

IF when we conſider ſome certain Maxim, we underſtand the truth of it either by it ſelf, or by ſuch an Evidence as perſwades us without any other Reaſon, this ſort of Knowledg is call'd Underſtanding, and thus it is that we underſtand the firſt Principles.

On the other ſide if it do not perſwade us by it ſelf, but that we have need of ſome other Arguments to overrule us, whether it be Authority or Reaſon; If it be Authority, which cauſes us to embrace what is propoſed this is that which is called Faith; If it be Reaſon, then where this Reaſon does not prodnce an

an entire Conviction, but leaves ſome doubt ſtill behind, this Acquieſcency of the Mind accompanied with ſome ſort of diſſatisfaction is call'd opinion.

But if Reaſon clearly convinces us, then where it is not clear, but only to outward appearance, and for want of attention, then the perſwaſion which it produces, proves an Error, if it be falſe in reality; or at leaſt a falſe Judgment, if being true in it ſelf, we have not reaſon ſufficient to believe it true.

But if this Reaſon be not only apparent but ſolid and true, which is found out by a more dilligent and exact attention, by a more firm Perſwaſion, and by the quallity of perſpicuity which is more lively and more penetrating, then the Conviction which this Reaſon produces, is call'd Knowledg, about which many queſtions ariſe.

The firſt is, whether there be any ſuch knowledg, that is to ſay, whether we have any knowledg grounded upon clear and certain Reaſons; or in general, whether we have any clear and certain knowledg; for this queſtion relates as well to Underſtanding as to Knowledg.

There are ſome Philoſophers who make it their Profeſſion to deny this Knowledg, and who have raiſed the whole Structure of their Philoſophy upon this Foundation. Of which Philoſophers, ſome there are who deny certainty, admitting Probability, and theſe are the new *Academics*: the other ſort, who are the *Pyrrhonians*, deny even probability it ſelf, pretending that all things are equally uncertain.

But the truth is, that all theſe opinions that have made ſuch a noiſe in the World, had never any ſubſiſtence but only in Diſcourſes, Diſputes and Writings,

Writings, and that no Man was ever otherwiſe perſwaded, but that they were only the toys and Diliriums of ingenious perſons that had nothing elſe to do, but never ſuch Sentiments of which they were entirely ſo ſatisfi'd as to walk and ſtand by thoſe Maxims, as the Rules of Life. And therefore the beſt way to convince theſe Philoſophers, is to cite 'em to the tribunal of their Conſciences, and ſincere Honeſty, and to ask 'em after all theſe diſcourſes, by which they endeavour to ſhew that there is no difference between ſleeping and waking, nor between Madneſs, and being in a Man's Senſes, whether they do not verily believe at the ſame time, in deſpite of all their Reaſons, that they are both awake, and in their Wits; and whether if they had but the leaſt remainder of Ingenuity, they would not give the Lye to all theſe Vanities and Subtilties, and frankly confeſs that they could never believe theſe things, though they ſhould make it never ſo much their endeavour.

But if there ſhould be any perſon, who ſhould doubt whether he were awake, or in his Senſes, or could believe that the Exiſtency of all exterior things is uncertain, and that he queſtions whether there be a Sun, a Moon, or any ſuch thing as Matter, yet no Man could ever doubt, as *St. Auſtin* affirms, whether he be, whether he think, or whether he live. For whether he be aſleep or awake, whether in or out of his Wits, whether he be deceiv'd or not deceiv'd; it is certain at leaſt, that while he thinks, he both *is* and *lives*, it being impoſſible to ſeparate *Being* and *Life* from Thought, and to believe that he who thinks he neither is nor lives. So that from this clear, certain and unqueſtionable Know-

ledg, may be drawn a Rule, whereby to approve all thoſe thoughts as true and clear, which appear to a Man like this.

It is impoſſible alſo to doubt of the Perceptions of the Senſes by ſeparating 'em from their Object. For whether there be a Sun or an Earth or no; certain it is that I imagine I ſee one. I am certain that I am in doubt while I doubt, that I believe I ſee, when I doubt whether I believe I ſee; and I believe I hear, when I queſtion whether I believe I hear, and therefore not extending our thoughts beyond thoſe things which are acted in the Mind it ſelf, and conſidering what is only done there, we ſhall find there an Infinite number of Certainties of which it is Impoſſible to doubt.

Which Conſideration may ſerve to decide another queſtion which ariſes upon this Subject; which is, whether thoſe things are only perceiv'd by the Mind, are more or leſs certain then thoſe things which we underſtand by the Senses? For it is clear by what we have ſaid, that we are more aſſur'd of our Perceptions and *Ideas*, which we only know by the Reflexion of our Minds, then we are of all the objects of our Senſes. We may alſo ſay, that tho' our Senses do not always deceive us in the report of things which they make us, yet that the aſſurance we have, that they do not deceive us, does not proceed from our Senſes, but from a reflexion of the Mind, by which we diſcern when we ought, and when we ought not to believe our Senses.

And therefore we muſt acknowledg that St. *Auſtin* after *Plato*, had reaſon to affirm, that the judgment of Truth, and the Rule to diſcern it belongs not

not to the Senſes, but to the Mind. And that the aſſurance to be depended on from the Senſes, is of no large extent, and that there are many things which we believe we know by the Senſes, of which we cannot ſay, that we have any abſolute certainty.

For example, we may know by the Senſes that one Body is bigger then another; but we cannot know certainly what is the true and natural bigneſs of every Body; for the manifeſtation of which, we are only to conſider, that if all the World had never look'd upon exterior objects, but with multiplying-Glaſſes, certain it is, they would not have ſhap'd thoſe Bodies and meaſures of Bodies otherwiſe then according to the Bigneſs repreſented by the Magnifying-glaſſes. Now our Eyes are Magnifying-glaſſes, and whether we know not preciſely, we diminiſh or enlarge the objects which we ſee. Or whether the artificial Magnifying-Glaſſes, which we believe to augment or diminiſh, do not rather repreſent the ſame things according to their true Magnitude. So that we do not certainly know the abſolute and natural bigneſs of any Body.

Neither do we know whether we ſee things to be of the ſame bigneſs with other Men. For tho' two perſons in meaſuring, agree together, that ſuch a Body does not contain above five Foot, yet perhaps that which one Man means by one Foot, is not what another means by the ſame meaſure. For one conceives what is repreſented to him by his Eyes; and another conceives the ſame thing; yet it may be the Eyes of the one perſon do not repreſent the ſame thing which the other mans Eyes do; in regard their Eyes may be like Glaſſes variouſly ground

However there is great Probability, that this difference is not very great; becauſe we do not ſee any difference in the forming of the Eye, able to produce a change ſo remarkable, for tho' our Eyes are Glaſſes, yet they are Glaſſes cut by the Hand of God; and ſo we have reaſon to believe, that they repreſent the truth of Objects; only that there are ſome defects which alter and deprave the natural Figure.

However it be, if the Judgment of the bigneſs of Objects be any way uncertain, ſo is it neither neceſſary, nor have we any reaſon to conclude that there is any more certainty in any other reports of the Senses. For if I do not know preciſely what is the abſolute and natural bigneſs of an Elephant, however I know that an Elephant is bigger then a Horſe, and leſs then a Whale, which is ſufficient for common Underſtanding.

Therefore, there is both certainty and uncertainty, as well in the Mind as in the Senses, and it would be an equal miſtake to look upon all things as certain, or all as things uncertain.

Reaſon on the contrary propoſes three things to us to be obſerv'd.

For there are ſome things to be known clearly and certainly. There are other things, the truth of which we do not as yet clearly and evidently underſtand, but which we may hope to underſtand hereafter. And there are other things which it is Impoſſible that we ſhould underſtand with certainty; either becauſe we are ignorant of the Principles that lead us to the Truth, or becauſe they are above the reach of our Underſtandings.

The

The firſt ſort comprehends all that we know by Demonſtration, or Underſtanding.

The ſecond is the continual exerciſe of Philoſophical Study. But it may eaſily happen that they may looſe their time, if they cannot diſtinguiſh this from the third ſort, if they cannot diſcern thoſe things to which the Mind may attain; from thoſe other things which it is not capable to apprehend.

The moſt compendious way to the full extent of knowledg is not to toil our ſelves in the ſearch of that which is above us, and which we can never rationally expect to comprehend. Such are thoſe queſtions that relate to the Omnipotency of God, which it would be ridiculous to confine within the narrow Limits of our Underſtandings; and generally, as to whatever partakes of Infinity. For our underſtanding being finite, looſes it ſelf in the Labyrinth of Infinity; and lies overwhelm'd under the multitude of thoughts, contradicting one another.

Hence may be drawn the moſt convenient and ſhorteſt ſolution of many queſtions, about which there will be no end of diſputing, ſo long as Men are infected with the Itch of diſpute, in regard they can never be able to arrive at any certain knowledg, whereby to aſſure and fix the underſtanding. Is it poſſible any creature ſhould be created from Eternity? Is it poſſible for God to make a Body infinite in quantity, a movement infinite in ſwiftneſs, a multitude infinite in number? Is a number infinite even or odd? Is one infinite more extenſive then another? He that ſhould anſwer once for all, I know nothing of it, may be ſaid to have made as fair a Progreſs in a moment, as he that had been beating his Brains twenty years, about theſe Niceties. The

only difference between theſe Perſons is, that he that drudges day and night about theſe Queſtions, is in the greateſt danger of falling a degree lower then bare Ignorance; which is, to believe he knows that which he knows not at all.

There are alſo an infinite number of Metaphyſical Queſtions, which being far remote and abſtracted from principles clearly known, can never be reſolv'd: So that the ſureſt way is, for a Man to rid himſelf of 'em the ſooneſt he can; and after we have ſlightly read what has been ſaid of 'em, to reſolve to unlearn 'em again.

Neſcire quædam magna pars ſapientiæ.

By which means, riddi g our ſelves of vain and uſeleſs ſcrutinies, we ſhall be the more able to make a fairer progreſs in ſuch things as are more proportionable to our underſtandings.

Moreover we are to underſtand, that there are ſome things which are incomprehenſible in their manner, yet certain in their exiſtency, we cannot comprehend how they are, however it is certain, they are.

What is more incomprehenſible then Eternity? and yet at the ſame time what is more certain? Inſomuch that they, who through a deteſtable blindneſs, have defac'd in their minds the knowledge of God, are conſtrain'd to attribute it to the vileſt and moſt contemptible of *Beings*, which is *matter*.

How can we comprehend that the ſmalleſt Atom of matter is diviſible to infinity, and that we can never come to ſo ſmall a part, that does not only encloſe ſeveral others, but alſo an infinity of other

ther parts. That a ſmall grain of Wheat encloſes in it ſelf as many parts, though leſſer in proportion as the whole world? That all imaginable figures are actually there to be found, and that it contains a little world in it ſelf with all its parts, a Sun, a Heaven, Stars, Planets, and an Earth, in a moſt admirable correſpondency of Proportion? What can that part of this little world be, which anſwers to the bigneſs of a grain of Wheat; and what a ſtupendious exiguity muſt that be, of which we may truly ſay, that it is ſuch in reſpect of a grain of Wheat, as a grain of Wheat is compar'd with the whole World? Nevertheleſs this part which is ſo incomprehenſible to us, contains another proportionable world, and ſo *ad infinitum*; there being ſtill no part which does not comprehend as many proportional parts as the world, how large ſoever we make it.

Theſe things are above Conception; yet neceſſarily they muſt be ſo, becauſe the diviſibility of matter is demonſtrable, as appears by the proofs which *Geometry* furniſhes us with, as clear as any which ſhe produces.

For this Science ſhews us, that there are ſome lines which have no common Meaſure, which for that reaſon are call'd Incommenſurable, as the Diagonal and ſides of a Square. Now if this Diagonal and ſides were compos'd of a certain number of diviſible parts, one of theſe parts would be the common meaſure of thoſe Lines; and by conſequence it would be impoſſible that thoſe two Lines ſhould be compos'd of Indiviſible parts.

Secondly, the ſame Science teaches us, that it is impoſſible that a ſquare Number, ſhould be double

another ſquare Number; and yet 'tis poſſible for an extended Square to be double to another extended Square. Now if theſe two Squares were compos'd of a certai number of Finite parts, the great Square would contain double as many parts as the leſs, and both being ſquare, there would be a ſquare Number double to another ſquare Number, which is impoſſible.

Laſtly, there is nothing more clear, then that two *nothings* of an Extent can form an Extent; and that every Extent has parts. Now taking two of theſe parts which are ſuppos'd to be indiviſible, I demand whether they have extent or no? If they have, then they are diviſible and have parts; if they have not, then they are Nothings of an Extent, and ſo it is impoſſible they can form an Extent.

We muſt renounce all Human Aſſurance, to doubt of the verity of theſe Demonſtrations: But for the better apprehending this infinite Diviſibility of matter, I will add one more proof, which ſhews us at the ſame time a Diviſion into infinite, and a motion that ſlack'ns to infinite, yet never ends in reſt.

Certain it is, that though it may be doubted, whether extent may be divided to Infinity, it is unqueſtionable that it may be enlarg'd to Infinity; and that to a Plain of a Hundred Thouſand Leagues, may be added another Plain of a Hundred Thouſand Leagues, and ſo *ad infinitum*. Now this Infinite Augmentation of Extent proves its infinite diviſibility. For proof of which, there needs no more then to ſuppoſe a plain Sea, which is augmented to Infinity, together with a Ship continually ſailing from ſome part of that Sea, in a direct Line.

Certain

Certain it is, that the *Radius* that ſhall come from the bottom of the Ship, to the Eye of the Perſon looking from the Port, through a Glaſs or Tranſparent Body ſhall paſs through a certain point of the Glaſs, and the Horizontal *Radius* ſhall paſs through another ſomewhat more Elevated. Now as the Veſſel makes Sail, the point of the *Radius* that terminates at the bottom of the Ship, ſhall always mount, and infinitely divide the ſpace between the two points, and the farther the Veſſel moves off, the higher it will ſlowly aſcend, without ever ceaſing to aſcend, or ever being able to touch the Point of the *Horizontal Radius*, becauſe thoſe two Lines interſecting each other in the Eye, can never be Parallel nor the ſame Line.

Which Example, at the ſame time, affords us an Infinite Diviſibility of an Extent, and a ſlackning of motion to Infinity.

By this Infinite Diminution of Extent, which ariſes from its diviſibility may be prov'd theſe Problems that ſeem impoſſible in their Terms. *To find an Infinite ſpace equal to a Finite; or which is no more then the half or the third part of a Finite ſpace.* Of which among many others, here is one, very eaſie, though not ſo polite. Take the half of a Square, and the half of that Square, and ſo *ad infinitum*, and joyn all theſe halfs by their longeſt Line, the Conſequence will be a ſuperficies of an irregular Figure, and which will diminiſh *ad infinitum*, at one of the ends, but which will be equal to the whole ſquare. For the half and the half of the half, the half of the ſecond half, and ſo *ad infinitum*, make the whole. The third, and the third of the third, and the third of the new third, and ſo *ad infinitum* make

make the half. The fourth's taken after the ſame manner make the third part, and the fifth part is the fourth; which joyning together at the ends, will produce a Figure containing a half, or a third part of the *Area* of the whole, and which on the one ſide ſhall be infinite in length, diminiſhing proportionably in breadth.

The advantage that may be made of theſe ſpeculations, is not only the bare knowledge of theſe things, which is barren enough; but to teach us the limits of our underſtandings, and to make us acknowledge inſpite of our ſelves, that there are certain things that are, which we are not capable to apprehend. And therefore it is profitable in ſome meaſure to take pains about theſe niceties, were it only to tame our preſumption, in oppoſing our feeble apprehenſions againſt the Truths which the Church propoſes, under pretence that we cannot apprehend 'em.

For ſeeing that the force and vigor of human wit is forc'd to ſuccomb to the leaſt Atom of matter, and to confeſs that he clearly ſees, that it is diviſible into Infinity, not apprehending how it can be done; is it not viſibly a ſin againſt Reaſon, to refuſe to beleive the viſible Effects of Gods Omnipotency, which is of it ſelf incomprehenſible; and only becauſe it is above our Apprehenſion?

But as it is ſometimes profitable for a Man to make himſelf ſometimes ſenſible of the weakneſs of his own Underſtanding, by the conſideration of thoſe objects which are above it, it is no leſs certain, that he ought to make choice of Subjects and Matters, for his more general ſtudy which are within the reach of his capacity, the truth of which he may

may be able to find out and comprehend, whether by proving the Effects by the Cauſes, or a *Priori*; or by demonſtrating the Cauſes by the Effects, which is call'd Demonſtration *a Poſteriori*. Nevertheleſs, the ſignification of theſe Terms muſt be dilated, to the end that under them all ſorts of Demonſtrations may be reduc'd; though here it may ſuffice to give a hint of 'em by the by, that they be underſtood and not ſeem uncouth to us, when we meet with 'em in the Writings and Diſcourſes of Philoſophy; and for that, Arguments of this Nature being compos'd of ſeveral parts; it is requiſite, for the rendring 'em more clear and concluding, to diſpoſe 'em in a certain Order and Method. Of which Method it is, that we ſhall diſcourſe in the chiefeſt part of this Book.

CHAP. II.

Of the two ſorts of Method, Analyſis *and* Syntheſis. *An Example of* Analyſis.

METhod may be generally call'd *The Art of well diſpoſing a ſeries of ſeveral Thoughts, either to diſcover the Truth of which we are ignorant, or to prove others of which we know the truth already.*

Thus there are two ſorts of Methods; the one to diſcover the Truth, which is call'd *Analyſis*, or the *Method of Unfolding*, and which may be alſo call'd the *Method of Invention*: And the other to make it underſtood by others when it is found out, which is

is call'd *Syntheſis*, or the *Method of Compoſition*, and may be alſo call'd the *Method of Doctrine.*

The entire Body of any Science is rarely handled *Analitically*, *Analyſis* being only made uſe of to reſolve ſome * Queſtion.

Now all Queſtions are either about words or things.

I call in this place queſtions about words, not thoſe that hunt after words, whereby things may be ſignify'd, but which ſearch for things ſignify'd out of the words themſelves: As when we endeavour to find out the meaning of a Riddle; or what an Author means by obſcure or ambiguous words.

Queſtions about things may be reduc'd under four ſeveral ſorts. The firſt, when we ſeek for the cauſes by the effects. For example, we know the various effects of the Loadſtone, and by their aſſiſtance ſearch for the cauſe. We know the various effects which are uſually attributed to the abhorrency of *vacuum*: We ſearch whether that be the true cauſe, and we find it is not. We know the Sea ebbs and flows; and we ſeek for the true cauſe of ſo regular a motion.

The ſecond is, when we ſeek to find out the Effects by the Cauſes. For example, we find that wind and water have a great force to move bodies. But the Antients not having ſufficiently examin'd what might be the effects of thoſe cauſes, never made uſe of 'em, for many inventions afterwards found out to the great benefit of Mankind, and the great eaſe of human Labour, which ought to have been

* The greateſt part of what is here diſcours'd concerning Queſtions, was taken from a Manuſcript of the Deceas'd *D'eſcartes*, which Monſieur *Clerchelier* did me the favour to lend me.

been the true Fruit of Phyſical Study. So that it may be ſaid, the firſt ſort of Queſtions, whereby we ſeek the Cauſes by the Effects, include the ſpeculative part of Phyſics, and the ſecond part that ſeeks for the Effects by the Cauſes, contains the Practical part.

The third ſort of Queſtions, is when we ſeek for the knowledge of the whole by the parts. As when we have many Numbers, we ſeek for the Sum by Addition or Multiplication.

The Fourth is, when having the whole and ſome part, we ſeek for the other part: As when we know a certain number, and what is ſubſtracted from it, we ſeek to find what remains; or as when we ſeek to know what will be the *ſo much*, of a given number.

But here it is to be obſerv'd, that for the farther extenſion of theſe two ſorts of Queſtions; and that they may comprehend what cannot be properly referr'd to the former, the word part is to be taken more generally for all that comprehends a thing, its *Manners*, its *Extremities*, its *Accidents*, its *Properties*, and generally all its *Attributes*. So that he may be ſaid to ſeek the whole by its parts, who ſeeks to find out the *Area* of a Triangle by its height and Baſis: And he may be ſaid to ſeek a part by the whole and another part, who ſeeks to find out the ſide of a Rectangle, by the knowledge which he has of the *Area*, and one of the ſides.

Now whatever be the nature of the Queſtion propos'd, the firſt thing is to conceive clearly and diſtinctly, what is the preciſe point of the Queſtion.

For the error of many is to be avoided, who out of heat and precipitancy, are ready with their anſwers

anſwers, before they rightly underſtand, by the Circumſtances and other marks, what is propounded. Like a Servant, that being commanded to go for one of his acquaintance, runs away in haſt before he knew particularly from his Maſter, who that friend is.

Now in regard there is in all queſtions ſomething unknown, which elſe would never be to ſeek, nevertheleſs that which is unknown muſt be mark'd out, and deſign'd by certain conditions, which limit us to ſearch out one thing rather then another, and cauſe us to underſtand when we have found it out, that it is the thing which we ſeek after.

And theſe Conditions we are well to conſider before hand, with great care, leaſt we add any other then what is enclos'd within the thing propounded, and of omitting any thing which is therein included: For both ways a Man may commit a manifeſt error.

As for example, in the firſt manner, if it ſhould be demanded of us, what Creature that goes upon four Feet in the Morning, upon two at Noon, and three in the Evening, we ſhould err to think our ſelves bound to take theſe words, *Feet*, *Morning*, *Noon*, *Evening* in their proper and genuine ſignification: For the Propounder of the *Enigma* requires no ſuch condition: And therefore it is ſufficient that they may be apply'd by a Metaphor to ſome other thing: And ſo the Riddle will be well reſolv'd, by ſaying that ſame Creature is a Man.

Let us ſuppoſe the Queſtion to be, how the Statue of *Tantalus* could be made lying upon a Column in the midſt of a *Vaſe*, in the poſture of a Man ſtooping down to drink, but could not do it, becauſe the

the water in the *Vaſe*, might aſcend up to his Mouth; but ſank down again ſo ſoon as it began to touch his Lips. We ſhould err in adding ſuch Queſtions that would be of no uſe to the ſolution of the Queſtion, and trouble our brains to find out ſome wonderful ſecret in the Statue of *Tantalus* that caus'd the Water to ſink down ſo ſoon as it' approach'd his Lips. For nothing of that is included in the queſtion. For if it be rightly conceiv'd, it may be ſufficient that we imagine a Veſſel made to contain Water to ſuch a height, and which empties again, if it be fill'd above ſuch a mark; which is eaſy to be done, by concealing a private Pipe in the Column, of which one Branch admits the Water into the *Vaſe*, the other which is longer, hangs down below the bottom of the Vaſe. For the Water pour'd into the Vaſe will ſtay till it come to the top of the *Syphon* or Pipe, but being fill'd up to the top of the Pipe, away it flies again through the longer branch of the Pipe that hangs down below the Vaſe.

The Queſtion alſo may be put what ſecret that ſame water Drinker had, who ſhew'd his tricks at *Paris* about twenty years ſince; and how by vomiting only water out of his Mouth, he could fill at the ſame time five or ſix ſeveral Glaſſes with water of different colours. If any one believe, that theſe waters of different colours were in his Stomach, and that he made a ſeparation *there*, as he threw 'em up into the ſeveral Glaſſes, that Perſon will hunt after a ſecret never to be found; becauſe it is an impoſſibility. And therefore he is only to ask why the water coming out of one and the ſame Mouth, at one and the ſame time, appear'd to be of divers colours

colours in every one of the Glaſſes; which it is very probable, was occaſion'd by ſome Tincture, which the Mountebank put at the bottom of the Glaſſes.

'Tis the cunning alſo of thoſe that propound Queſtions, which they would not have eaſily reſolv'd, to environ and cloud the thing which is to be reſolv'd with ſo many frivolous conditions, which ſerve nothing to the ſolution of the queſtion, on purpoſe to prevent the diſcovery of the true point of the thing propounded; and ſo we loſe time and beat our brains to no purpoſe, about things that contribute nothing to the diſcovery of the thing demanded to be reſolv'd.

The other manner of erring in the examination of the marks and circumſtances of the thing which we ſearch for, is when we omit what is moſt eſſential to the queſtion propounded. For example, we propoſe to find out the perpetual motion by Art. For we know well that there are perpetual motions in nature, as thoſe of Fountains, Rivers and Stars. There are ſome, who believing the earth turns upon its center, which is nothing but a great Loadſtone, of which the common Adamant has all the properties, believe alſo that an Adamant may be ſo order'd, as always to turn about circularly. Which though they could bring to paſs, yet would it nothing contribute to find out the perpetual motion by Art; in regard that other motion would be as natural, as that of a Wheel expos'd to the current of a River.

Therefore when we have well examin'd the Circumſtances, that mark out what is unknown in the queſtion, we are next to examin what is known, for

for thereby we ſhall come to the knowledge of what is unknown. For we are not to imagine that we are to find out new *Genus*'s of things, in regard our minds are no farther capable to find out things unknown, then as they participate after ſuch or ſuch a manner, with the nature of things which we know. For example, if a Man were blind from his birth, we ſhould kill our ſelves in vain, to ſeek out Arguments and proofs, to make him ſenſible of the true *Ideas* of Colours, ſuch as we have by means of our ſences. Alſo if the Loadſtone, and thoſe other Bodies, whoſe nature we are inquiſitive to find out, were new *Genus*'s of *Beings*, and ſuch that our underſtandings could not conceive the like, we might deſpair for ever to attain to the knowledge of 'em, by reaſons or arguments, but we ſhould ſtand in need of another underſtanding then our own. And therefore we are to believe that we have found out all that can be found by human Invention, could we conceive diſtinctly, that ſuch a mixture of *Beings* and *Natures*, which are known to us, could produce thoſe effects which are known to us in the Loadſtone.

Now it is chiefly in our Attention to what is known to us in the queſtion which we ſhould reſolve, that the *Analyſis* conſiſts: it being our main buſineſs to draw from that examination many Truths that may lead us to the knowledge of what we ſeek.

As if the Queſtion were, *whether the ſoul be Immortal*, and to find it out, we apply our ſelves to conſider the nature of our ſoul; we obſerve in the firſt place, that it is the propriety of the ſoul to think, and that it may doubt of all things elſe, without

doubting whether it think or no, in regard the doubt it ſelf is a thought. After this we examin what it is to think; and not finding in the *Idea* of Thought, that there is any thing included in the *Idea* of extended Subſtance, which is call'd a *Body*, and that we may deny of Thought whatever belongs to a Body, as to be *long*, *broad*, *deep*, *to have diverſity of parts*, *to be of ſuch or ſuch a figure*, *to be diviſible*, &c. without deſtroying the *Idea* which we have of Thought, we conclude that Thought is no *manner* of *extended Subſtance*; becauſe it is of the nature of a *manner* that cannot be conceiv'd, if the thing be deny'd of it whoſe *mode* it is. Whence we infer, that Thought being no *Manner* of extended Subſtance, it muſt be the Attribute of ſome other Subſtance; and ſo the Subſtance that thinks and the extended Subſtance, muſt be two Subſtances really diſtinct. Whence it follows that the deſtruction of the one does no way argue the deſtruction of the other, ſince the extended ſubſtance is not properly deſtroy'd, but that all that happens in that which we call deſtruction is nothing elſe but a change or diſſolution of ſome parts of the matter which remains always in Nature, as we rightly judge, that in breaking the Wheels of a Clock, the ſubſtance of the Clock is not deſtroy'd, though we ſay the Clock is deſtroy'd. Which ſhews, that the Soul not being diviſible or compos'd of any parts, cannot periſh, and by conſequence is immortal.

This is that which is call'd *Analyſis*, or an *unfo'ding*, where we are to obſerve, 1. That we ought to take our progreſs, as in the method of Compoſition, from that which is moſt known, to that which is

is leaſt known. For there is no true method that can diſpence with this Rule.

2. That it differs from the method of Compoſition in this, that we conſider theſe known Truths in the particular examination of the thing which we propoſe to underſtand, and not in things more general, as in the method of Doctrine. Thus in the foregoing example, we do not begin with the general maxims, that no ſubſtance, to ſpeak properly, periſhes; That what we call deſtruction is only a diſſolution of the parts; That whatſoever has no parts cannot be deſtroy'd: but we mount up by degrees to thoſe general Rules.

3. That we never propoſe clear and evident maxims, but as we have occaſion to make uſe of 'em; whereas in *Syntheſis* we produce thoſe firſt, as we ſhall ſhew hereafter.

4. That theſe two methods differ only, as the way that leads from a Valley to a Mountain, differs from that which leads from the top of the Mountain to a Valley: Or as the two manners differ, to prove that ſuch a Perſon is deſcended from St. *Lewis*, of which the the one way is to ſhew, that ſuch a Perſon had ſuch an one to his Father, who was the Son of ſuch an one, and he the Son of ſuch an one, and ſo down to St. *Lewis*. The other to begin from St. *Lewis*, and to ſhew that he had ſuch Children, thoſe Children others, till they come to the laſt deſcent, who is the Perſon intended. And this Example is the more proper at this time, becauſe it is the moſt certain way to find out an obſcure Pedigree, by aſcending from the Son to the Father; whereas for the inſtruction of others that it is already found, the moſt uſual way is to begin

from the ſtock, the more eaſily to demonſtrate who they were that deſcended from it. Which is uſually obſerv'd in the Sciences, where after we have made uſe of *Analyſis* to find out ſome truth, we apply our ſelves to the other method, to explain what we have found out.

By this we may underſtand what is the *Analyſis* of the *Geometricians*, which conſiſts in this. A Queſtion being propounded to them, which they know not whether it be true or falſe. As whether it be a *Theoreme* or if a *Theoreme* the poſſibility or impoſſibility of it. They ſuppoſe it to be as it is propos'd, and examining what will follow from thence, if upon that examination they light upon evident Truth, of which that which is propos'd is a neceſſary conſequence, they conclude from thence, that the thing propos'd is True: Then beginning again where they left off, they demonſtrate it by the method of *Compoſition*. But if through neceſſary Inferences, they fall into abſurdity and impoſſibility, they conclude the thing propos'd to be abſurd and impoſſible.

This is what can be generally ſaid of *Analyſis*, which conſiſts more in judgment and dexterity of wit then in particular *Rules*. Nevertheleſs theſe four which Monſieur *Deſcartes* propos'd in his method may be beneficial for a Man to guard himſelf from erring in the ſearch of Truth, relating to human Sciences, though indeed they may be generally apply'd to all ſorts of Methods, and not particularly only to *Analyſis*.

1. *Never to receive any thing for Truth, which is not known to be evidently ſuch; that is, carefully to avoid precipitation and prejudice; and not to comprehend any thing more in a Mans judgment, then what preſents*

preſents it ſelf clearly to the underſtanding, and which is altogether and abſolutely unqueſtionable.

2. *To divide the* Difficulties *that are under Examination, into as many parts or parcels as he can, and are requiſite for their ſolution.*

3. *To govern his thoughts by order, beginning from objects the moſt plain and eaſie to know, that he may be able to ſoar by degrees, to the knowledge of things more difficult and compounded; and ſuppoſing a certain order among thoſe things which do not naturally precede one another.*

4. *To number his* Mediums, *and make his reviews ſo exactly, that he may be aſſur'd of not having omitted the leaſt Particle.*

True it is, that it is a very difficult thing to obſerve theſe Rules; but it is always neceſſary to bear 'em in mind, and to obſerve 'em with all the exactneſs that lies in a Mans power, when he would find out Truth by the way of Reaſon, and as far as our underſtanding is capable to reach.

CHAP. III.

Of the Method of Compoſition, and particularly that which is obſer'vd by the Geometricians.

WHat we have ſaid in the foregoing Chapter, has already given us ſome *Idea* of the Method of Compoſition, which is the moſt important as being that which we make uſe of in the explanation of the Sciences.

This method conſiſts principally in beginning from Things the moſt plain and general, and aſcending to the leſs general and more compounded. By this means we ſhun ungrateful Repetitions; for ſhould we be to treat of *Species*'s before *Genus*'s, ſince it is impoſſible to underſtand the *Species* rightly before we underſtand the *Genus*, there would be a neceſſity of ſeveral times explaining the nature of *Genus* in the explanation of every *Species*.

There are many things alſo to be obſerv'd, to render this method perfect and proper for obtaining the propos'd end, which is to give us a clear and diſtinct knowledge of the Truth. But becauſe the general Precepts are more difficult to underſtand, when they are abſtracted from all manner of matter, we will conſider the Method of the *Geometricians*, as being that which we have always thought moſt proper to convince us of the Truth. And firſt we ſhall ſhew what is to be commended in this method, and ſecondly what it has defective.

It being the chief aim of the *Geometricians* to advance nothing but what is truly convincing, they might attain their ends by obſerving three things in general.

1. *Not to ſuffer any Ambiguity in their Terms*, againſt which they have provided by definitions of words.

2. *Not to ground their Arguments but upon clear and evident Principles*; and which can never be queſtion'd by any Perſon of underſtanding; which is the reaſon, that they lay down their Axioms which they require, ſhould be granted 'em, as being ſo clear, that they would be but obſcur'd, by going about to prove 'em.

3. *To*

3. *To prove demonſtratively all theſe Concluſions*, by the help of ſetled Definitions, Principles granted 'em, as being moſt evident, and Propoſitions which they have already drawn by the force of Reaſon, inſomuch, that after that they become Principles.

So that we may reduce to theſe three Heads, whatever the Geometricians obſerve to convince the Underſtanding, and include the whole in theſe five Rules of great Importance.

Rules neceſſary for Definitions.

1. *Not to leave any thing in the Terms obſcure, or Equivocal without defining it.*

2. *To make uſe of none but Terms perfectly known, or already explain'd.*

For AXIOMS.

3. *To propound no Axiom but what is moſt clear and evident.*

For Demonſtrations.

4. *To prove all Propoſitions any thing obſcure, by the help of preceding Propoſitions or Axioms conceded, Propoſitions Demonſtrated, or laſtly by the Conſtruction of the thing in queſtion, when there is any Operation to be ſhewn.*

5. *Never to make uſe of the Ambiguity of Terms, by failing mentally to explain thoſe Definitions that reſtrain and explain it.*

These are the Rules which the Geometricians have thought necessary to render their Probations convincing and invincible. And we must confess, that a diligent observation of these Rules is sufficient to avoid the making of false Arguments, while we treat of the Sciences. Which without doubt is the principal thing; when all the rest may be said to be rather profitable then necessary.

CHAP. IV.

A more particular Explication of the foregoing Rules, and first of those that relate to Definitions.

THo' we have declar'd in the first part the benefit of the Definition of Terms, nevertheless it is of that Importance, that we cannot bear it too often in remembrance, in regard that thereby we unravel a great number of questions; which are very difficult, by reason of the Ambiguity of their Terms, which some take in one Sence, some in another. Insomuch that very great contests would cease in a Moment, if either of the Disputants did but take care to define clearly and in few words what he means by the Terms which are the Subject of the Dispute.

Cicero has observ'd that the greatest part of the disputes between the ancient Philosophers, especially the *Stoics* and *Academics* were founded only upon this ambiguity of words; while the *Stoics* to exalt themselves, took the terms of Morallity in Senses quite different from others. Which made Men believe

believe that their Morals were much more ſevere and more perfect: tho' indeed that pretended Perfection was only in words, and not in things, the ſageſt of the *Stoics* no leſs indulging himſelf to the pleaſures of this Life, then the Philoſophers of other Sects, that were more Latudinary and remiſs. Nor did they with leſs care avoid the Evil and Inconveniencies of Life, only with this difference, that whereas other Philoſophers made uſe of the ordinary words Good and Evil, the *Stoicks* call'd the pleaſures which they enjoy'd, *things to be prefer'd*; and the Evils which they ſhun'd, *things to be avoided.*

And therefore it is abſolutely requiſite to retrench from all diſputes, whatever is founded upon the Equivocation of words, by defining 'em by other words ſo clearly underſtood, that there can be no fault found, or exception taken.

To which purpoſe ſerves the firſt of the foregoing Rules, *to leave nothing in the Terms obſcure or Equivocal without defining it.* But that we may be able to make the beſt of theſe Definitions, we are to add the ſecond Rule, *To make uſe of none but terms perfectly known or already explain'd*; that is to ſay, terms that deſign as clearly as may be, the Idea which we mean by the word that we define.

For ſo long as we have not clearly and diſtinctly enough ſet forth the *Idea* to which we would affix to the word, it is almoſt impoſſible to avoid ſliding into another *Idea* different from that we have deſign'd; that is to ſay, but that inſtead of ſubſtituting mentally, every time we make uſe of the word, the ſame *Idea* deſign'd, we ſubſtitute another with which Nature furniſhes us. Which is eaſily diſcover'd by ſubſtituting the Definition in the place of the

the thing defin'd. For then there is nothing ought to be chang'd in the Propoſition, if there has been a Conſtancy to the *Idea*; whereas otherwiſe there will be an apparent Change.

This will be better underſtood by Examples. *Euclid* defines a Plane Rectilineal Angle, *The meeting of two right Lines inclin'd upon the ſame Plane.* If we conſider this Definition, as a bare Definition of the word, ſo that we are to look upon the word Angle, as being diſpoil'd of all Signification, but that of the *meeting of two Lines*, we have no Reaſon to blame *Euclid*. For it is lawful for *Euclid* to ſignify by the word Angle the meeting of two Lines. But he is bound to remember himſelf, and not to uſe the word Angle but only in that Sence. Now to try whether he has done it, every time that he ſpeaks of an *Angle*, we are to ſubſtitute to the word Angle, the Definition which he has given of it, and if in comparing the Definition, there be found any abſurdity in what he ſays concerning an Angle; it will follow that he has not been conſtant to the ſame *Idea* which he had deſign'd, but that he is inſenſibly fallen into another, which is that of Nature. For example, he teaches us to divide an Angle in two. Compare his Definition, and you ſhall find that it is not the meeting of two Lines that he would have us divide in two, that it is not the meeting of two Lines that has two ſides and a Baſe; but that all this agrees with the ſpace comprehended between two Lines.

It is viſible therefore, that that which puzzl'd *Euclid*, and hindered him from defining an Angle, to be a ſpace comprehended between two Lines that meet, was this that he found that ſpace might be larg-

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er or leſs, as the ſides of the Angle were longer or ſhorter, and yet the Angle not be leſs or bigger. Nevertheleſs he ought not to have concluded from hence, that an Angle was not a ſpace, but only that it was a ſpace comprehended between two right Lines that meet indetermin'd in reſpect of one of the two Dimenſions that aniwer to the length of the Lines, and determin'd according to the other, by the proportional part of a Circumference, which has for its Center, the point where the Lines meet.

The Definition define ſo clearly the *Idea* which all Men have of an Angle, that it is both a Definition of the word, and of the thing; only that the word Angle comprehends in common diſcourſe a ſolid Angle, whereas by this Definition it is reſtrain'd to ſignify a Plane Rectilinial Angle.

And when we have thus defin'd the *Angle*, it is unqueſtionable that whatever afterwards can be ſaid of a plain Rectilineal Angle, ſuch as is found in all Rectilineal Figures, ſhall be true of this Angle thus defin'd, without being oblig'd to change the *Idea*; nor will any abſurdity follow by ſubſtituting the Definition in the place of the thing defin'd. For it is the ſpace thus explain'd, that cannot be divided into two, three, or four. This is that ſpace which has two ſides between which it is comprehended; and which on that part which is undetermin'd of in it ſelf, may be determin'd by a Line which is call'd the Baſe, or *Hypotenuſe*. Nor is it accounted greater or leſs, as being comprehended between longer or ſhorter Lines, for the meaſure of great or leſs is not to be taken from the part which is undetermin'd according to its Dimenſion. By this Definition we find out the way to judg whether,

ther one Angle be equal to another, whether bigger or leſs. For the bigneſs of this ſpace being only determin'd by the proportional part of a Circumference, which has for its Center the Point where the Lines that comprehend the Angle meet, when the two Angles are meaſur'd by equal parts of its Circumference, as the tenth part, they are equal: if one by the tenth, the other by the twelfth; that which is meaſur'd by the tenth, is bigger then that which is meaſur'd by the twelfth; whereas by *Euclid's* Definition, we ſhould never underſtand wherein conſiſts the equality of two Angles. Which cauſes a horrible Confuſion in his Elements, as *Ramus* has obſerv'd, tho' he himſelf no leſs unfortunate in his Rectifications.

Behold another of *Euclids* Definitions, where he commits the ſame fault, as in that of the Angle. *Reaſon* ſays he, *is a habitude of two Magnitudes of the ſame kind, compar'd one with another according to quantity. Proportion is a Similitude of Reaſons.*

By theſe Definitions the word Reaſon ſhould comprehend the Habitude which is between the two Magnitudes, when we conſider how much the one exceeds the other. For we cannot deny but that this habitude is a habitude of two Grandeurs, compar'd according to quantity. And by Conſequence four Magnitudes will be proportionable one to another, while the difference between the firſt and ſecond is equal to the difference between the third and fourth. So that there is nothing to be ſaid to theſe Definitions of *Euclid*, provided he continue conſtant to thoſe *Ideas* which he has deſign'd by theſe words, and which he has given to the words of *Reaſon* and *Proportion*. But he is not conſtant, for that according to the whole

whole ſeries of his Book, theſe four Numbers, 3. 5. 8. 10. are not proportionable, tho' the Definition which he has given to the word Proportion agrees with 'em. For that there is between the firſt number and the ſecond compar'd together according to quantity, a habitude like to that between the third and the fourth.

Now that he might avoid falling into this Inconvenience he ſhould have obſerv'd, that there are two ways of comparing two Magnitudes; one by conſidering how far the one ſurpaſſes the other, and the ſecond, by conſidering after what manner the one is contain'd in the other. And in regard theſe two habitudes are different, he ought to have given 'em different Names, to the firſt the name of *Difference*, to the ſecond the name of *Reaſon*. Afterwards he ought to have defin'd Proportion, the Equality of the one or the other of theſe two ſorts of Habitudes, that is, of Difference or Reaſon. And as this makes two *Species's*, to have diſtinguiſh'd 'em alſo by two ſeveral names, calling the Equallity of *Difference*, *Arithmetical Proportion*, and equality of *Reaſon*, *Proportion Geometrical*. And becauſe the latter is much more beneficial then the former, the Readers are to be admoniſh'd, that when *Proportion* or *Proportional Magnitudes* are barely nam'd, it is to be underſtood of *Geometrical Proportion*; but for Arithmetical Proportion, it is never to be underſtood, but when it is expreſs'd. Which would have unveil'd all obſcurity, and taken away all *Equivocation*.

This ſhews us that we are not to make an ill uſe of that Maxim, That the Definitions of words are Arbitrary. But that great heed is to be taken to deſign ſo clearly and exactly the *Idea* to which we affix the

the word, that is to be defin'd, that we may not be deceiv'd in the Series of the Diſcourſe; by taking the word in another Sence then that which is given it by the Definition; ſo that we may always ſubſtitute the Definition to the thing defin'd without falling into Abſurdity.

CHAP. V.

That the Geometricians *ſeem not to have rightly underſtood the difference between the Definitions of words and things.*

ALthough there are not any Writers, who make a better uſe of the Definitions of Words, than the *Geometricians*; yet I cannot but obſerve, that they have not rightly underſtood the difference between the Definitions of *words* and *things*; which is, that the firſt are diſputable, the ſecond not to be controverted: For I find ſome that raiſe Diſputes about the Definitions of vvords vvith the ſame heat, as if they vvere diſputing about the things themſelves.

Thus vve find in the *Commentaries* of *Clavius* upon *Euclid*, a long diſpute and mighty hot, between *Pelletier* and Him, touching the ſpace between the Tangent and the Circumference, which *Clavius* denyes, *Pelletier* affirms to be an Angle. Who does not ſee, that all this might be determin'd in one word, by demanding of Both, what they meant by the word *Angle*?

We find alſo the Famous *Simon Stevin*, Mathematician to the *Prince* of *Orange*, having defin'd Number to be, *That by which is explain'd the quantity*

tity of every Thing, he puts himſelf into ſuch a pelting Chaſe againſt thoſe that will not have the *Unite* to be a *Number*, as to exclaim againſt Rhetoric, as if he were upon ſome ſolid Argument. True it is that he intermixes in his Diſcourſes a queſtion of ſome Importance, that is, whether a *Unite* be to *Number*, as a *Point* is to a *Line*. But here he ſhould have made a diſtinction, to avoid the fumbling together of two different things. To which end theſe two *queſtions* were to have been treated apart; *whether a Unite be Number*, and *whether a Unite be to Number, as a Point is to a Line*; and then to the firſt he ſhould have ſaid, that it was only a Diſpute about a Word, and that an *Unite* was, or was not a Number, according to the Definition, which a Man would give to Number. That according to *Euclid*'s Definition of *Number*; *Number is a Multitude of Unites aſſembled together*; it was viſible, that a *Unite* was no Number. But in regard this Definition of *Euclid* was arbitrary, and that it was lawful to give another Definition of *Number*, *Number* might be defin'd as *Stevin* defines it, according to which Definition a *Unite* is a *Number*; ſo that by what has been ſaid, the *firſt queſtion* is reſolv'd, and there is nothing farther to be alledged againſt thoſe that denyed the Unite to be a Number, without a manifeſt begging of the queſtion, as we may ſee by examining the pretended Demonſtrations of *Stevin*. The firſt is,

The Part is of the ſame Nature with the whole,
The Unite is a Part of a Multitude of Unites,
Therefore the Unite is of the ſame Nature with a Multitude of Unites, and conſequently of Number.

This

This Argument is of no validity. For tho the part were always of the ſame nature with the whole, it does not follow that it ought to have always the ſame name with the whole; nay it often falls out, that it has not the ſame Name. A Souldier is part of an Army, and yet is no Army; a Chamber is part of a Houſe, and yet no Houſe; a Half Circle is no Circle; a Part of a Square is no ſquare. This Argument therefore proves no more, then that Unite being part of a Multitude of Unites, has ſomething common with a Multitude of Unites, and ſo it may be ſaid to have ſomething common with 'em; but it does not prove any neceſſity of giving the ſame name of Number to Unite, as to a Number of Unites: Becauſe if we would we could not reſerve the name of Number to a multitude of Unites, nor give to Unite more then its name of Unite, or part of Number.

The Second Argument which *Steven* produces is of no more force.

If from a Number given we ſubſtract any Number, the Number given remains.

If then the Unite were not a Number, Subſtracting one out of three, the Number given would remain, which is abſurd.

But here the *major* is ridiculous, and ſuppoſes the Thing in Queſtion. For *Euclid* will deny that the Number given remains after ſubſtraction of another Number. For to make it another Number then what was given, there needs no more then to ſubſtract a Number from it, or a part of a Number, which is the Unite. Beſides, if this Argument were good, we might prove in the ſame manner, that by taking a half Circle from a Circle given, the Circle given would remain, becauſe no Circle is taken away.

then

So that all *Stevens*'s Arguments prove no more, then that Number may be defin'd in ſuch a manner, that the word Number may agree with Unity, becauſe that Unite and multitude of Unites accord ſo well together, as to be ſignify'd by the ſame word, yet they no way prove that number can be no way defin'd, by reſtraining the word to the Multitude of Unites, that we may not be oblig'd to except the Unite, every time we explain the properties that belong to all numbers, except the Unite.

But the ſecond Queſtion, *Whether an Unite be to Numbers, as a point is to a Line*, is a diſpute concerning the thing? For it is abſolutely falſe, that an Unite is to number as a point is to a Line. Since an Unite added to number makes it bigger, but a Line is not made bigger by the addition of a point. The Unite is a part of Number, but a Point is no part of a Line. An Unite being ſubſtracted from a Number, the Number given does not remain; but a point being taken from a Line, the Line given remains.

Thus doth *Stevin* frequently wrangle about the Definition of words, as when he chaffs himſelf to prove that Number is not a quantity diſcreet, that Propoſition of Number is always Arithmetical, and not Geometrical, That the Root of what Number ſoever, is a Number, which ſhews us that he did not properly underſtand the definition of words, and that he miſtook the definition of words, which were diſputable for the definition of things that were beyond all Controverſie.

CHAP. VI.

Of the Rules in Reference to Axioms.

ALL Men agree, that there are ſome Propoſitions ſo clear and evident of themſelves, that they have no need of being demonſtrated; and that all that are not demonſtrated, ought to be ſuch, that they may become the Principle of true Demonſtration. For if they be ſully'd with the leaſt incertainty, it is clear, that they cannot be the ground of a concluſion altogether certain.

But there are ſome who do not apprehend wherein this clearneſs and evidence of a Propoſition conſiſts. For it is not to be imagin'd, that a Propoſition is then only clear and certain, when no body contradicts it: Or that it ought to be queſtion'd, or at leaſt that we ſhould be oblig'd to prove it, when we meet with any one that denies it. For if that were ſo, there would be nothing clear and certain, in regard there are a ſort of Philoſophers that queſtion every thing; and others, who aſſert that there is no propoſition more probable then its contrary. And therefore we muſt not judge of certainty or truth by the conteſt among men. For there is nothing about which we may not contend, eſpecially in words: But we are to take that for clear and certain, which appears to be ſo to all thoſe, who will take the pains diligently to conſider things, and no leſs ſincere and ingenious to diſcover what inwardly

wardly they think of 'em. And therefore it is a great saying of *Ariſtotle*, that Demonſtration relates more to the inward Eviction of the mind, then to the forcing of an outward belief. For that there is nothing which can be ſo evidently demonſtrated, which may not be deny'd by a Perſon truly opiniated; who many times engages himſelf in diſputes about things, of which he is inwardly perſwaded to the contrary. Which is a ſign of froward Diſpoſition, and an ill contriv'd *Genius*: Though it be too true, that this humour is frequently predominant in the Schools of Philoſophy, wherein cuſtom of brangling has prevail'd, and it is thought diſhonourable to ſubmit in the leaſt; he being accounted to have moſt wit, who is moſt ready at ſhifts and evaſions. Where it is the Character of a ingenious Man to yeild his Arms to truth, as ſoon as ſhe comes to be perceiv'd, and to admire her even in the Mouth of his Adverſary.

Secondly, all Philoſophers, who affirm that our *Ideas* proceed from our ſenſes, maintain alſo, that all certainty and evidence of Propoſitions, proceed either immediately or mediately from the ſenſes. *For*, ſay they, *this Axiom, then which there can be no nothing deſir'd more clear and evident. The whole is greater then a part, has gain'd no belief in our underſtandings, but only becauſe we have particularly obſerv'd from our Infancy, that every Man is bigger then his Head, that a Houſe is bigger then a Chamber, a Forreſt then a Tree, and the whole Heaven then a Star.*

This Imagination is as falſe as that which we have refuted in the firſt part, *That all our Ideas proceed from our Senſes.* For if we were not aſſur'd of

this Truth, *That the Whole is bigger then a part*, but by our obſervations from our Infancy, in regard Induction is no certain means to know a thing, but when we are aſſur'd the Induction is entire. There being nothing more frequent, then to diſcover the falſity of what we have believ'd upon the credit of Inductions, which ſeem'd to us ſo general, that it was thought impoſſible to make any exceptions a-gainſt 'em.

Thus it is not above two or three years ſince, that it was thought a thing not to be queſtion'd, that the Water contain'd in an Arch'd Veſſel, having one ſide much more capacious then the other, kept always at an even level, not riſing higher on the greater ſide then on the leſſer, becauſe we ſeem'd to be aſſur'd of it, by an infinite number of experiments. But lately this has been found to be falſe, provided that one of the ſides of the Veſſel be very narrow, for then the water will riſe higher on that, then on the other ſide. This ſhews us, that Inductions only can give us no ſolid aſſurance of any Truth, unleſs we could be certain they were general, which is impoſſible. And by conſequence we could be but probably aſſur'd of the Truth of this Axiom; *The whole is bigger then the part*, were we no other way aſſur'd of it, but becauſe we have ſeen a Man bigger then his Head, a Forreſt bigger then a Tree, a Houſe bigger then a Chamber, or the Heavens then a Star. For that we ſhould have always reaſon to doubt, whether there were not ſome other *whole*, not ſo big as its part that had eſcap'd our knowledge.

'Tis not then upon the obſervations we have made from our Infancy, that the certainty of this Axiom

Axiom depends, there being nothing more likely to precipitate us into error, then to truſt to the prejudices of our Infancy. But it ſolely depends upon that vvhich is contain'd in the clear and diſtinct *Ideas* of the *whole*, and a *part*; that is, that the *whole* is bigger then a *part*, and a *part* leſs then the *whole*. And as for all our former obſervations of a Mans being bigger then his Head, a Houſe then a Chamber, they only furniſh us vvith an occaſion to conſider more diligently the *Ideas* of the *whole* and a *part*. But it is abſolutely falſe, that they are the abſolute and undeniable cauſes of the Truth of this Axiom.

What vve have ſaid of this Axiom may be ſaid of others, and ſo I believe that the certainty and evidence of human knovvledge in natural things, depends upon this principle.

What ever is contain'd in the diſtinct and clear Idea *of a thing, may be truly affirm'd of that thing.*

Thus becauſe that *Animal* is included in the *Idea* of *Man*, I can affirm of *Man*, that he is an *Animal*. Becauſe to have all its Diameters equal, is included in the *Idea* of a Circle, I can affirm of any Circle, that all its Diameters are equal: Becauſe the having of all Angles equal to two Right Angles, is included in the *Idea* of a Triangle, I can affirm it of every Triangle.

Nor can this Principle be diſputed, without denying all evidence of Human Knowledge, and ſetting up a ridiculous *Pyrroniſm*. For we cannot judge of things but by the *Ideas* which we have of 'em, ſince we have no way to conceive 'em, but as they are repreſented to our thoughts, and that only by their *Ideas*. Now if the judgments which we make

while we contemplate theſe *Ideas*, ſhould only repreſent our Thoughts, and not the Things themſelves; that is to ſay, if from the knowledge that we have; that the equality of three Angles, with two right Angles, is contain'd in the *Idea* of a Triangle, I could not conclude that every Triangle has three Angles, equal with two right Angles, but one that I thought ſo, it is viſible, that then we ſhould have no knowledge of Things, but only of our Thoughts; and by conſequence we ſhould know nothing of thoſe things which we perſwade our ſelves to be moſt certain of; only we might ſay that we think ſo; that would manifeſtly deſtroy all manner of Sciences.

And we need not fear, that there are any Perſons who ſeriouſly agree upon this conſequence, that we know not the truth or falſhood of any thing conſider'd in it ſelf. For there are ſome things ſo plain and evident; as, *I think, therefore I am*; *the Whole is bigger then its Part*, that it is impoſſible ſeriouſly to doubt, whether they be ſuch in themſelves as we conceive 'em to be. For we cannot doubt of 'em without thinking; nor can we think without beleiving 'em true, and by conſequence we cannot doubt of 'em.

Nevertheleſs this one principle does not ſuffice to judge of what ought to be receiv'd for an Axiom. For there are Attributes, which both may and ought to be enclos'd in the *Idea* of things, which nevertheleſs both may and ought to be demonſtrated, as the equality of all the Angles of a Triangle to two Right ones: Or of all the Angles of a *Hexagon* to eight Right Angles. But it will be needful to obſerve, whether the *Idea* of a thing require only a ſlight conſideration, to ſee clearly that the Attribute is contain'd in the *Idea*; or whether

whether it be requiſite to joyn ſome other *Idea*, to diſcover the Connexion when it is only neceſſary to conſider the *Idea* only, the Propoſition may be taken for an *Axiom*, eſpecially if that conſideration require but a ſlight attention, of which ordinary underſtandings may be capable; but if it be requiſite to joyn another *Idea* to the *Idea* of the thing, 'tis a Propoſition to be demonſtrated, and ſo theſe two Rules may be given concerning *Axioms*.

1. RULE.

When, to ſee that an Attribute agrees with a Subject; as to ſee that it agrees with the whole to be bigger then its part, there needs but a ſlight Attention to conſider the two Ideas *of the Subject and the Attribute; inſomuch that it may be done, without perceiving that the* Idea *of the Attribute is included in the* Idea *of the Subject, we have then reaſon to take that propoſition for an Axiom which requires no Demonſtration, becauſe it contains in it ſelf all the Evidence that Demonſtration could give it; which can do no more then ſhew that the Attribute agrees with the Subject, by making uſe of a third* Idea *to ſhew the Connexion, which is already ſeen without the aſſiſtance of a third* Idea.

But we muſt not confound a bare Explication, though it carry'd ſome form of an Argument with a true Demonſtration. For there be *Axioms* that require Explanation, that they may be the better underſtood, though they have no need of Demonſtration, explanation being nothing elſe but to ſpeak in other terms, and more at large what is contain'd in the Axiom; whereas an Axiom requires

ſome near way which is not clearly contain'd in the Axiom.

2. RULE.

When the ſole conſideration of the Ideas *of the Subject and the Attribute ſuffices not to ſhew clearly, that the Attribute agrees with the Subject, the Propoſition that affirms it is not to be taken for an Axiom; but it ought to be demonſtrated by making uſe of certain other* Ideas *to ſhew the Connexion; as we make uſe of the* Idea *of Parallel Lines to ſhew that three Angles of a Triangle are equal to two Right Angles.*

Theſe two Rules are of greater moment, then they are generally taken to be. For it is one of the moſt uſual errors among Men, not to conſult themſelves ſufficiently in what they deny or affirm, but to give credit to what they have heard others ſay, or what they have formerly thought themſelves, never minding what they would think themſelves, ſhould they take more time and ſtudy to conſider their own thoughts; heeding more the ſound of words; and affirming for clear and evident what is impoſſible for 'em to conceive; and denying as falſe, what it would be as impoſſible for 'em to believe not to be true, would they but take the pains of more ſerious conſideration.

For example, they who ſay that in a piece of Wood, beſides its parts and their ſituation, their figure, their motion and their reſt, and the pores that lie between the parts, there is yet a ſubſtantial form diſtinct from all theſe things, believe they ſpeak nothing but Truth, yet all the while they ſpeak what neither They, nor any other Perſon lying do comprehend or ever will.

However

However, if they would explain the effects of Nature, by the inſenſible parts of which Bodies are compos'd, and by their different ſituation, bigneſs, figure, motion or reſt, and by the Pores between the parts, that open or ſtop the paſſage for other matters, they believe we talk nothing but *Chimera's*, though we'll tell 'em nothing but what may be eaſily conceiv'd. And by a ſtrange blindneſs of underſtanding, the eaſineſs of conceiving theſe things, carries 'em to believe that they are not the real cauſes of Natures effects; but that they are more occult and myſterious. So that they rather chuſe to believe thoſe that explain 'em by Principles which they conceive not, then thoſe that make uſe of Principles which they underſtand.

And what is yet more pleaſant, when we talk to 'em of inſenſible parts, they believe they have ſufficient ground to reject 'em, becauſe they can neither be felt nor ſeen: Whereas they can ſwallow ſubſtantial Forms, Ponderoſity, Vertue Attractive, *&c.* which they cannot only neither ſee nor feel, but not ſo much as conceive.

CHAP. VII.

Certain Axioms *of Moment that may ſerve for Principles of great Truth.*

IT is a thing by all confeſs'd, that it is of great Moment, to bear in our Memories and Minds ſeveral Axioms and Principles, which being clear

clear and unqueſtionable may ſerve as a Foundation to lead us to the knowledge of things moſt occult. Though many that are moſt uſually laid down, are of ſo little uſe, that it is needleſs to know 'em. For that which they call the firſt principle of Knowledge, *it is impoſſible that the ſame thing ſhould be, and not be*, is moſt clear and evident. But I know no occaſion wherein it may be ſerviceable to teach us general knowledge.

But theſe that follow may be of ſome uſe.

1. *AXIOM.*

All that is included in the clear and diſtinct *Idea* of a Thing may be affirm'd with Truth.

2. *AXIOM.*

The Exiſtence, at leaſt, that which is poſſible is included in the Idea *of that which we conceive clearly and diſtinctly.*

For after a Thing is conceiv'd clearly and diſtinctly, we cannot deny it poſſible Exiſtence. In regard that we deny things to be by reaſon of the contradiction between our *Ideas*.

3. *AXIOM.*

Nothing can be the cauſe of any thing. From this ſprings other Axioms that may be call'd Corollaries, ſuch as theſe that follow.

4. *AX-*

4. *AXIOM*; or 1. *COROLLARY* of the 3.

No Thing, or no Perfection of a Thing in Being, can have no Thing, or a Thing not being for the cauſe of its Exiſtence.

5. *AXIOM*; or 2. *COROLLARY* of the 3.

All Reality or Perfection of a Thing is found formally and eminently, in the firſt and adequate cauſe.

6. *AXIOM*; or 3. *COROLLARY* of the 3.

No Body can move it ſelf, that is give motion to it ſelf, not having any.

This Principle is ſo naturally eminent, that it is that which has introduc'd ſubſtantial Forms, and the real qualities of Ponderoſity and Lightneſs. For the Philoſophers on the one ſide, finding it impoſſible, that that which ought to be mov'd ſhould move it ſelf; and being erroneouſly perſwaded on the other ſide, that there was nothing vvithout, that puſh'd dovvn the Stone when it fell, thought it neceſſary to diſtinguiſh two things in a Stone, the matter that receiv'd the motion, and the ſubſtantial form aſſiſted by gravity, that begat the motion: Not heeding that they fell thereby into that inconvenience which they ſought to avoid, if the form it ſelf were material, that is real matter. Or if it were not matter, that then it was to be a ſubſtance really diſtinct. Which it was impoſſible for them clearly to conceive, at leaſt to conceive it as a Spirit, or thinking Subſtance; as is the Form of Man, and not the Forms of other Bodies. 7. *AX-*

7. *AXIOM.*

No Body can move another, unleſs it be mov'd it ſelf. For if a Body being at reſt cannot give motion to it ſelf, it can never give motion to another.

8. *AXIOM.*

We muſt deny that which is clear and evident, becauſe that which is obſcure, cannot be apprehended.

9. *AXIOM.*

It is the nature of a final Spirit not to apprehend an Infinite.

10. *AXIOM.*

The Teſtimony of a perſon infinitely Powerful, infinitely Wiſe, infinitely Good, and infinitely True, ought to be more effectual to convince us then the moſt prevailing Demonſtrations.

For we ought to be more aſſur'd, that He who is infinitely wiſe cannot be deceived; and that he who is infinitely good will not deceive us; then we can be aſſur'd, that we are not deceiv'd our ſelves in things moſt evident.

Theſe three laſt Axioms are the Foundations of Faith, of which more hereafter.

11. *AXIOM.*

Thoſe Actions of which the Senſe may eaſily judge, being

being atteſted by a Great Number of Perſons of ſundry Centurys, ſundry Nations and various Intereſts, who ſpeaks of 'em, as ſeen by themſelves, and whom we cannot ſuſpect for conſpiring to uphold a Falſhood ought to paſs for as conſtant and unqueſtionable, as if we had ſeen 'em with our Eyes.

This is the Foundation of the greateſt part of our Knowledg, there being infinitely a greater Number of things, which we know by this means, than of thoſe which we know of our ſelves.

CHAP. VIII.

Of Rules relating to Demonſtration.

A True Demonſtration requires two Things. The one that in the matter there be nothing, but what is certain and unqueſtionable. The other that there be nothing faulty in the Form of the Argument. Now we ſhall obtain both the one and the other, if we obſerve the two Rules, which we have premis'd.

For there will be nothing, but what is certain in the Matter, if all the Propoſitions made uſe of for Proofs, be,

Either Definitions of words already explain'd, which being arbitrary cannot be queſtion'd.

Or Axioms conceded, and which ought not to be admitted, if they be not clear and evident of themſelves by the 3*d*. Rule.

Or Propoſitions already demonſtrated, and which by

by conſequence are become clear and evident by the Demonſtration made.

Or the Conſtruction of the thing it ſelf, which is in Diſpute, when there is any Operation to be done, which ought to be as unqueſtionable as the reſt, ſince the Poſſibility ought to be firſt demonſtrated, if there be any queſtion concerning it.

Clear it is therefore, that obſerving the firſt Rule, nothing muſt be brought to prove a Propoſition, but what is certain and evident. It is alſo eaſie to ſhew, that there can be no Error againſt the Form of Argument, by obſerving the ſecond Rule, which is not to make an ill Uſe of the Equivocation of Terms, by failing to ſubſtitute mentally the Definitions that reſtrain and explain 'em.

For if ever we tranſgreſs againſt the Rules of Syllogiſms, it is in deceiving our ſelves with the Equivocation of ſome Term; and taking it in one Senſe in one of the firſt Propoſitions, and in another Senſe in the other, which happens chiefly in the Middle Term which being taken in two various Senſes in the two firſt Propoſitions, is the uſual fault of vicious Arguments. Now it is clear, that Fault may be avoided, if we obſerve the ſecond Rule.

Not that thoſe are the only Vices of Syllogiſms, that ariſe from the Equivocation of Terms; but thoſe other are of ſuch a nature, that it is almoſt impoſſible, that a Perſon but of a mean and ordinary capacity ſhould ever fall into 'em, eſpecially in ſpeculative Matters. And therefore it would be a needleſs thing to admoniſh 'em to beware of thoſe Errors, or to preſcribe Rules. Beſides that it would rather be hurtful, in regard the conſideration of theſe ſuperfluous Rules, would but draw off our Studies from thoſe that are more neceſſary. Therefore

Therefore we find the *Geometricians* never trouble themſelves about the Forms of their Arguments, nor dream of conformity to the Rules of Logic, and yet they are never deceiv'd; in regard they are guided by nature, with the Aſſiſtance of much Study.

There is another Obſervation to be made upon Propoſitions that require Demonſtrations. That is, that they are not to be reck'ned for ſuch, which may be demonſtrated for ſuch by the Application of the Rule of Evidence to every evident Propoſition. For if it were ſo, there vvould hardly be any Axiom, vvhich vvould not require Demonſtration; vvhen almoſt all may be demonſtrated by that Axiom, vvhich vve have laid down as the Foundation of all Evidence. *Whatever we find to be contain'd in one clear and diſtinct* Idea, *may be affirm'd for Truth.* As for Example,

All that we find in one clear and diſtinct Idea *may be affirm'd for Truth.*

Now we ſee that the clear and diſtinct Idea, *which we have of the whole, includes it's being bigger than it's Part.*

Therefore we may affirm for Truth that the whole is bigger then its part.

But though this be a very good Proof, yet is it not abſolutely neceſſary, becauſe the Underſtanding ſupplies the Major, without any neceſſity of a particular conſideration, and clearly and evidently ſees that the whole is bigger then a part, without reflecting from whence the Evidence ariſes. For they are two different things to know a thing Evidently, and to know from whence ariſes the Evidences.

CHAP.

CHAP. IX.

Of ſome Errors uſually occurring in the Method of the Geometricians.

WE have ſeen what is good in the method of the Geometricians, that it has reduc'd us to five Rules, in the obſervation of which we cannot be too exact. And we muſt confeſs it for a thing moſt admirable, they having diſcover'd ſo many occult things, and their having demonſtrated 'em by ſo many firm and invincible reaſons, by the help of ſo few Rules. So that among all the Philoſophers, they have only the advantage to have baniſh'd out of their Schools and Writings, Conteſt and Diſpute.

Nevertheleſs to make a judgment of things without prejudice, as we cannot deny 'em the honour to have follow'd a way much more aſſur'd then others, to find out the truth, ſo we cannot deny but that they are fallen into ſome errors, which do not lead 'em however from their end, but are the cauſe that oft-times they do not attain their end by the moſt direct and commodious way. Which I ſhall endeavour to make out, drawing from *Euclid* himſelf, the Examples of theſe defaults.

1. *DEFAULT.*

To be more diligent, and take more care of Certainty then of Evidence, and of convincing than an Enlightening the Underſtanding. The

The Geometricians are to be commended for aſſerting nothing but what is certain and demonſtrated. But they ſeem not to have heeded, that to have a perfect Knowledg of a Truth, it does not ſuffice to be convinc'd that it is a Truth, unleſs we dive into the Reaſons taken from the Nature of the thing, why it is true. For 'till we are arriv'd at that point, our Underſtanding is not fully ſatisfied, and therefore ſearches ſtill after a farther Knowledg, then that which it has; a ſign it has not yet attain'd a true knowledg. And this is the ſource of all the reſt which we ſhall obſerve.

2. ERROR.

To prove Things that have no need of Proof.

The Geometricians confeſs that there is no need of proving thoſe things that are clear of themſelves. Nevertheleſs they do it frequently; for that being more ſedulous to convince, then clear the Underſtanding, they think they ſhall be more able to convince, by producing ſome Proof of things themſelves the moſt evident, then by propoſing 'em barely, and leaving the Underſtanding to find out the Evidence.

This inclin'd *Euclid* to prove that two ſides of a Triangle being taken together, are bigger than one only, though it be evident by the ſole notion of a right Line; which is the ſhorteſt length that can be drawn between two points, and the natural meaſure of the Interval between Point and Point; which it could not be, if it were not the ſhorteſt of all the Lines that can be drawn from a Point to a Point.

This alſo induc'd him to make a Problem of that which he ought to have made a Queſtion, viz. *To draw a Line equal to a Line given*; tho' it be as eaſy, and more eaſy then to draw a Circle having one Radius given.

This Error without doubt proceeded from his not conſidering that all certainty and evidence of our knowledg in natural things ariſes from this Principle. *That we may affirm of a thing, whatever is contain'd in its clear and diſtinct Idea.* Whence it follows that it were needleſs to know, that an Attribute is included in an *Idea*, that upon the bare conſideration of the *Idea* without the addition of any other, it ought to paſs for evident and clear, as we have already ſaid.

I know there are ſome *Ideas* that are more eaſily known to be included in the *Ideas*, then others. But I believe it ſufficient, if they may be clearly known with a ſlight conſideration, ſo that no perſon that has any thing of Ingenuity can ſeriouſly queſtion it, that the Propoſitions be look'd upon as drawn from a bare conſideration of *Ideas*, as from Principles that have no need of Proof, but of Explanation and ſome little Diſcourſe. Thus I affirm that there is no Man who has never ſo ſlightly conſider'd the *Idea* of a Right-Line; but he will not only preſently conceive that its Poſition depends only upon two Points; (which *Euclid* took for one of his Queſtions) but that he will alſo clearly and eaſily apprehend, that if one Right-Line cut another, and that there be two points in the cutting Line, each equally diſtant from the points of the Line cut, there is no other point of the Line cutting, which will not be equally diſtant from the two points of the cut Line.

From

From whence it will be eaſy to know when any one Line will be Perpendicular to another, without the help of Angle or Triangle; which ought not to be handled till after the laying down of many things which cannot be demonſtrated, but by Perpendiculars.

We are alſo to obſerve, that excellent *Geometricians* have laid down for Principles, Propoſitions much more obſcure then this of ours. As when *Archimedes* builds his neateſt Demonſtrations upon this Maxim. *If two Lines in the ſame Plane have two Extremities; and if they be crooked or hollow toward the ſame part, the contain'd will be leſſer then that which contains it.*

I confeſs this error of going about to prove that which requir'd no Proof, ſeems to be but a ſmall fault, and indeed none in it ſelf, yet we ſhall find it to be a great one, if we conſider the Conſequences. For from hence ariſes that tranverſment of the order of Nature, of which hereafter; this deſire of proving that which is to be ſuppos'd clear and evident of it ſelf, having often oblig'd *Geometricians* to treat of things on purpoſe to furniſh themſelves with Proofs for thoſe things which they ought not to prove, and which according to the order of Nature, ought not to have been treated of till afterwards.

3. *DEFAULT.*

To ſhew by Impoſſibillity.

Theſe ſorts of Demonſtrations that ſhew a thing to be ſuch, not by Principles, but by ſome abſurdi-

ty that would follow, if it were otherwiſe, are very ordinary in *Euclid*. Whereas it is manifeſt that ſuch Demonſtrations conſtrain us indeed to give our Conſent, but no way clear our Underſtanding: which ought to be the principal end of the Sciences. For our Underſtanding is not ſatisfied, if it does not know not only what the thing *is*, but why it is? which cannot be obtain'd by a Demonſtration reducing to Impoſſibility.

Not that theſe Demonſtrations are altogether to be rejected; For ſometimes they may be uſeful to prove Negatives, which are properly no more then Collaries of other Propoſitions either clear of themſelves, or demonſtrated already ſome other way, and then this Demonſtration by reducing to Impoſſible ſupplies the place of an Explanation, rather then a new Demonſtration.

Laſtly it may be ſaid that theſe Demonſtrations are not to be admitted, but when we can give no others, and that it is an Error to uſe 'em for the Proof of that which may be poſitively prov'd.

Now there are ſeveral Propoſitions in *Euclid*, which he proves only by this way, which without much difficulty might be be prov'd after another manner.

4. DEFAULT.

Demonſtrations drawn from things too remote.

This Error is very common among the *Geometricians*. They never trouble themſelves whence the Proofs which they bring are taken, ſo they be but convincing. Nevertheleſs it is but an imperfect way

way of proving things, by ways remote and forreign, upon which the things demonſtrated no way depend according to the order of Nature.

All which we ſhall underſtand better by ſome few Examples.

Euclid. l. 1: Propoſ. 5. proves that an *Iſoſceles* Triangle has two Angles equal at the Baſe. To this purpoſe he equally extends the ſides of a Triangle, and makes new Triangles which he compares one with another.

But is it not incredible that a thing ſo eaſy to be prov'd as the equallity of thoſe Angles ſhould have need of ſo much cunning to prove it, as if there were any thing more ridiculous then to imagine that this equallity depended upon forreign Triangles; whereas, had he follow'd true order, there are many ways more eaſy, ſhorter and more natural to prove the ſame inequality.

The Forty ſeventh of the ſame Book, where it is prov'd that the ſquare of a Baſe that ſuſtains a Right Angle, is equal to the two ſquares of the ſides, is one of the moſt eſteem'd Propoſitions in *Euclid.* And yet it is evident that the manner by which he there proves it is not ſo natural; ſince the equallity of Squares does no way depend upon the equallity of Triangles, which are taken however as the means for this Demonſtration; but upon the Proportion of Lines, which may eaſily be demonſtrated without the help of any other Line, then the Perpendicular from the top of the Right Angle to the Baſe.

All *Euclid* is full of theſe forreign Demonſtrations.

5. *DEFAULT.*

To take no care of the true order of Nature. This is the greateſt error of *Geometricians*. For they believe there is no order to be obſerv'd, ſo that the firſt Propoſitions may but ſerve to demonſtrate thoſe that follow. And therefore never heeding the Rules of true method, which is always to begin at the moſt plain and general things, from thence to aſcend to things more compos'd and particular, they confound every thing, and treat pell mell of Lines and Surfaces, Triangles and ſquares; prove by figures the Proprieties and ſimple Lines, and make an infinite number of other topſie-turvies, that diſfigure the noble Science.

The Elements of *Euclid* are ſtuft with errors of this nature, after he has treated of Extent in his four firſt Books, he treats of the Proportions of all ſorts of bulks in his fifth. He reſumes his Argument of extent in the ſixth, and treats of numbers in the ſeventh, eighth and ninth, to reſume again in his tenth his firſt diſcourſe of extent. Which is a prepoſterous diſorder in general: But there are many others more particular. He begins his firſt Book with the Conſtruction of an equilateral Triangle; and 22 Propoſitions, after he has preſcrib'd the general method of making a Triangle of three Right Lines given; provided that two be bigger then the third; which denotes the particular conſtruction of an equilateral Triangle, upon a Line given.

He proves nothing as to perpendicular Lines, and Parallels but by Triangles; and intermixes Dimenſion of ſurfaces with that of Lines.

He

He proves, L. 1. prop. 16. that the ſide of a Triangle being extended in length, the exterior Angle is bigger then either of the Angles inwardly oppoſite; and ſixteen Propoſitions after that, that this exterior Angle is equal to two oppoſite.

It would require a Tranſcription of *Euclid* to give all the Examples of this diſorder that might be produc'd.

6. DEFAULT

Not to make uſe of Diviſions and Partitions.

It is another great error among *Geometricians*, not to make uſe of Diviſions and Partitions. Not but that they mark out all the *Species*'s of thoſe *Genus*'s of which they treat, but becauſe they do it ſimply, by defining the Terms, and putting all the Definitions afterwards, without obſerving that a *Genus* has ſo many *Species*'s, and that it can have no more; becauſe the general *Idea* of the *Genus* can receive but ſo many differences; which would give us a great deal of ſight to dive into the nature of *Genus* and *Species*.

For example, we ſhall find in the firſt book of *Euclid*, the Definitions of all the *Species*'s of a Triangle. But who doubts not but that the Thing would be much more clear, were theſe *Species*'s thus propounded.

A Triangle may be divided either according to its ſide or Angles.

The Sides are,

Either { All equal, and are call'd *Equilateral*,
Two only equal, then call'd *Iſoſecles*.
All unequal, then call'd *Scatenum*.

The Angles are,

Either { All three Acute, and are call'd *Oxigons*.
Two only Acute, and then the third is
Right, then call'd *Rectangle*.
Obtuſe, then call'd *Amblygon*.

And it is better not to give this Diviſion of Triangles, till after the general explanation and demonſtration of all the Proprieties of a Triangle; whence we ſhould have learnt, that at leaſt two of the Angles of a Triangle muſt be Acute, becauſe that all three together are but equal to two Right Angles.

This Error minds us of that of inverted order, ſince we ought not to treat of *Species*, nor to define 'em, 'till after we underſtand the *Genus*, eſpecially when there are many things to be ſaid of the *Genus*, which may be explain'd without mentioning the *Species*.

CHAP.

CHAP. X.

An Anſwer to what the Geometricians *alledge for themſelves.*

THere are ſome *Geometricians* who believe they have juſtify'd themſelves as to theſe defaults, by ſaying that they never troubled their heads about 'em; that it is ſufficient for them to aver nothing but what they prove convincingly, and that they are thereby aſſur'd that they have found out the Truth, which is all they aim at.

We muſt confeſs indeed, that theſe defects are not ſo conſiderable, but that we muſt acknowledge, that of all human Sciences there are none better handl'd, then thoſe that are comprehended under the general name of Mathematics. Only we affirm, that there may yet be ſomething added to render 'em more perfect, and that though the Principal thing which they ought to conſider, be, to advance nothing but what is true, yet it were to be wiſh'd that they would be more diligent in finding out the moſt natural manner of imprinting the ſame Truth in the underſtanding.

For let 'em ſay if they pleaſe, that they take no heed to obſerve any genuine order, or to prove their propoſitions, whether by ways natural or remote, ſo they have their end of convincement, yet can they not thereby alter the nature of our underſtanding, nor imprint a more clear, more entire and

and more perfect knowledge of things which we know by their true cauſes and their true Principles, by thoſe other proofs of theirs, which are remote and Forreign.

Beſides that it is unqueſtionably true, that thoſe things are far more eaſily learnt, and better retain'd in the memory, which we learn by right order, in regard thoſe *Ideas*, that are link'd one to another in a continued ſeries, are without confuſion committed to the memory, and awaken each other when need requires more promptly and with greater facility. We may alſo affirm this moreover, that what we affirm by diving into the true reaſon of things, is not retain'd ſo much by the memory as by the Judgment; and it becomes ſo much our own, that we cannot forget it. Whereas that which we only know by demonſtrations, not grounded upon natural Reaſons, ſooner ſlip out of our minds, and is more difficultly recover'd; becauſe our underſtanding does not furniſh us with the means to recover what we have loſt.

We muſt then agree, that it is much better to obſerve then not to obſerve this order. So that all that the moſt equal judges can ſay in this particular, is that we muſt neglect a ſmaller inconvenience, when it cannot be avoided, for fear of falling into a greater.

And thus it is indeed an inconvenience not to obſerve a right order; but that it is better not to obſerve it, then to fail of proving invincibly what is propounded: and to expoſe our ſelves to error and Paralogiſm, by ſearching after certain Proofs that may be more natural, but which are not ſo convincing, nor ſo exempt from all ſuſpicion of Deceit.

This

This is a very ſpecious anſwer: And I confeſs that aſſurance of not being deceiv'd, is to be preferr'd before all things; and that right order is to be neglected, where it cannot be followed without looſing the force of Demonſtration and expoſing our ſelves to miſtake. But I cannot agree, that it is impoſſible to obſerve both the one and the other: And I believe that the Elements of *Geometry* might be ſo compos'd, that all things might be handled in their natural order, all the propoſitions prov'd by ways that are moſt natural and ſimple, and yet that all things ſhould be clearly demonſtrated.

CHAP. XI.

The Method of Sciences reduc'd to Eight Principal Rules.

IT may be concluded from what has been ſaid, that to have a more perfect method, then that in uſe among the *Geometricians*, we ought to add two or three Rules to thoſe five already laid down in the ſecond Chapter. So that all the Rules may be reduc'd to eight. Of which the two firſt relate to *Ideas*, and may be referr'd to the firſt part of this *Logic*.

The third and fourth relate to *Axioms*, and may be referr'd to the ſecond part, and the fifth and ſixth relate to Arguments, and may be referr'd to the third part. And the two laſt relate to order, and may be referr'd to the fourth part.

Two

Two Rules touching Definitions.

1. To let go none of the Terms that are but a little obſcure or equivocal, without defining 'em.
2. In Definitions not to make uſe of Terms that are not perfectly known, or already explain'd.

Two Rules for Axioms.

3. To require in *Axioms* only thoſe things that are perfectly evident.
4. To receive for evident that which requires but a ſlight conſideration to make it paſs for truth.

Two Rules for Demonſtrations.

5. To prove all the Propoſitions that are but a little obſcure, by the aſſiſtance of preceding Definitions, *Axioms* conceded, or Proper Propoſitions already demonſtrated.
6. Never to make an ill uſe of the Ambiguity of Terms, by failing to ſubſtitute at leaſt mentally, thoſe definitions that reſtrain and explain 'em.

Two Rules for Method.

7. To handle Things, as much as may be, in their Natural Order, beginning from the moſt ſimple and general, and explaining whatever appertains to the nature of the *Genus*, before we proceed to particular *Species*'s.
8. To divide, as much as may be every *Genus* into all its *Species*, every whole into its parts, and every

every difficulty into all Caſes. I have added to theſe Rules, *as much as may be*, becauſe it is true, that we may meet with ſome occaſions, wherein they cannot be obſerv'd to the utmoſt ſeverity; either becauſe of the narrow limits of human underſtanding; or by reaſon of thoſe Bounds that we are conſtrain'd to aſſign to every Science.

Whence it happens, that a *Species* is ſometimes to be explain'd before we can explain all that belongs to the *Genus*. Thus in common *Geometry* we treat of a Circle, without ſaying any thing of a crooked Line, which is the *Genus* of a Circle, which we think ſufficient to define.

Nor can we explain all that might be ſaid of a *Genus*, which would often prove too tedious. But it ſuffices then to ſpeak as much as we think expedient, before we paſs to the *Species*.

However I believe no Science can be perfectly deliver'd, without obſerving theſe two laſt Rules, as well as the reſt; which are not therefore to be diſpens'd withal, but upon abſolute neceſſity, or for ſome great advantage.

CHAP. XII.

Of what we know by Faith, whether Human or Divine?

WHat we have hitherto diſcours'd relates to Sciences purely human, and Knowledge founded upon the evidence of Reaſon. But before we conclude,

clude, it will not be amiſs to ſpeak of another ſort of Knowledge, which ofttimes is no leſs certain, nor leſs evident in its manner, then that which we draw from Authority.

For there are two general ways, by which we know a Thing to be true; The firſt is the knowledge which we have by our ſelves, whether we have attain'd it by Obſervation or Ratiocination, whether by our Senſes or by our Reaſon; which may be generally term'd *Reaſon*, in regard the Senſes themſelves depend upon the judgment of *Reaſon* or *Knowledge*; the word being here more generally taken than in the Schools; for all manner of knowledge of an object drawn from the ſame object.

The other way is the Authority of Perſons worthy of credit, who aſſure us that a thing is ſo. Tho of our ſelves we know nothing of it. Which is call'd Faith or Belief, according to the words of St. *Auſtin*, for what we know, we owe to reaſon; for what we believe, to Authority.

But as this Authority may be of two ſorts, either from God or Men, ſo there are two ſorts of Faith, Divine and Human.

Divine Faith cannot be Subject to error, becauſe that God can neither deceive us nor be deceiv'd.

Human Faith is of its ſelf ſubject to error, for all Men are Lyars according to Scripture: And becauſe it may happen, that he who ſhall aſſure us of the certainty of a thing, may be deceiv'd himſelf. Nevertheleſs as we have already obſerv'd; there are ſome things which we know not, but by a Human Faith, which nevertheleſs we ought to believe for as certain and unqueſtionable, as if they were Mathematically demonſtrated. As that which is known

known by the conſtant relation of ſo many Perſons, that it is morally impoſſible they ſhould ever have conſpir'd to affirm the ſame things, if they were not true. For example, Men have been naturally moſt averſe from conceiving any *Antipodes*, nevertheleſs though we never were in thoſe places, and know nothing of any *Antipodes* but by human Faith, he muſt be a Fool that does not believe 'em. And he muſt be out of his wits, who queſtions whether ever there were any ſuch Perſons as *Cæſar*, *Pompey*, *Cicero* or *Virgil*, or whether they were not feigned Names, as *Amadis de Gaul*.

True it is, that it is a difficult thing to know when Human Faith has attain'd to this ſame aſſurance; and this is that which leads Men aſtray into two ſuch oppoſite Deviations: So that ſome believe too ſlightly upon the leaſt report. Others ridiculouſly make uſe of all the force of their wit, to annul the belief of things atteſted by the greateſt authority, when it thwarts the prejudice of their underſtanding. And therefore certain Limits are to be aſſign'd, which Faith muſt exceed to obtain this aſſurance; and others, beyond which there is nothing but uncertainty, leaving in the middle a certain ſpace, where we ſhall meet with certainty or uncertainty, as we approach nearer to the one or the other of theſe Bounds.

Now then if we do but compare the two general ways, by which we beleive a thi g to be tiue, Reaſon and Faith; certain it is, that Faith always ſuppoſes ſome Reaſon. For as St. *Auſtin* ſays in his 122. Epiſtle, and in ſeveral other places, we could never bring our ſelves to believe that which is above our reaſon, if reaſon it ſelf had not perſwaded us, that

that there are ſome things which we do well to believe, tho' we are not capable to apprehend 'em, Which is principally true in reſpect of Divine Faith. For true Reaſon teaches us, that God being truth it ſelf, he cannot deceive us in what he reveals to us concerning his Nature and his Myſteries; whence it appears that though we are oblig'd to captivate our Underſtanding in obedience to Faith, as ſaith St. *Paul*, yet we do it neither blindly nor unreaſonably (which is the original of all falſe Religions,) but with a knowledg of the Cauſe, and for that it is but a reaſonable Act to Captivate our ſelves to the Authority of God, when he has given us ſufficient Proofs, ſuch as are his Miracles and other Prodigious Accidents, which oblige us to believe that he himſelf has diſcovered to Men the Truths which we are to believe.

As certain it is in the ſecond Place, that divine Faith ought to have a greater Power over our Underſtanding then our own Reaſon. And that upon this Dictate of Reaſon it ſelf, that the more certain is to be prefer'd before the leſs certain; and that is more certain which God aſſures us to be true, then that which Reaſon perſwades us; when it is more contrary to the Nature of God to deceive us, then the nature of our own Reaſon to be deceiv'd.

CHAP. XIII.

CHAP. XIII.

Certain Rules for the guidance of Reaſon, the belief of Events that depend upon Human Faith.

THE moſt cuſtomary uſe of ſound Judgment, and that faculty of the Soul, by which we diſcern Truth from falſhood is not employ'd in ſpeculative Sciences, about which ſo few Perſons are oblig'd to ſpend their time, and yet there is no occaſion wherein it is more frequently to be made uſe of, and where its more neceſſary then in that Judgment which we ought to make of what paſſes every day among Men.

I do not ſpeak of judging whether an Action be good or bad, worthy of applauſe or reproof, for that belongs to the regulation of Morallity; but of judging of the Truth or Falſhood of human Events, which may only be referr'd to Logic, whether we conſider 'em as paſt, as when we only endeavour to know whether we ought to believe 'em or not; or whether we conſider 'em as being to come, as when we fear or hope they will come to paſs, which regulates our hopes and our fears.

Certain it is, that ſome Reflexions may be made upon this Subject; which perhaps may not be altogether unprofitable, or rather may be of great uſe for the avoiding of certain Errors into which moſt People fall, becauſe they do not ſufficiently ſtudy the Rules of Reaſon.

The first Reflexion is, that there is a vast difference to be made betwee two sorts of Truths; the one that only relates to the nature of things and their Immutable Essences abstracted from their existence, the other that relates to things existent that relate to human and contingent events, which may or may not come to pass when we speak of the future, and may probably never have been, when we talk of what is past. I speak this with reference to their next causes, making an abstraction of their Immutable order in Divine Providence; because on the one side it does not hinder Contingence, and on the other side being unknown to us, it contributes nothing to make us believe the things themselves.

Now as all things are requisite in truths of the first sort, there is nothing sure, which is not Universally true, and so we must conclude that a thing is false if it be false in any case.

But if we think to make use of the same Rules in human Events; we shall always judg falsly, and make a thousand false Arguments.

For these Events being naturally contingent, it would be ridiculous to seek out in them for a necessary Truth. And so that person would be altogether void of Reason, who would believe nothing of such things unless it were made out to him, that it was absolutely necessary they should be so.

Now would he less deviate from Reason that would require me to believe any particular Event, (suppose it were the Conversion of the King of *China* to the Christian Religion) upon this only ground, because it is not Impossible to be so. For seeing that another who should assure me to the contrary may make use of the same Reason; it is clear that that reason

reaſon alone cannot determine me to believe the one rather then the other.

We muſt therefore lay it down for a certain and unqueſtionable Maxim upon this occaſion, that the Poſſibillity alone of an Event is not a ſufficient reaſon to make me believe it, and that I may have reaſon alſo to believe a thing, tho I judg it not impoſſible, but that the contrary may have come to paſs; So that of the Two Events I may rationally believe the one and not the other, tho I believe 'em both poſſible.

How then ſhall we reſolve to believe the one rather than the other, if we judg 'em both poſſible? Obſerve the following Rule.

To judge of the Truth of an Event, and to perſwade my ſelf into a Reſolution to believe, or not to believe a thing; it muſt not be conſider'd nakedly, and in it ſelf, like a Propoſition in Geometry; but all the circumſtances that accompany it, as well internal as external, are to be weigh'd with the ſame conſideration; I call Internal Circumſtances ſuch as belong to the Fact it ſelf; and external, thoſe that relate to the Perſons, whoſe Teſtimonies induce us believe it. This being done, if all the Circumſtances are ſuch, that it never, or very rarely happens, that the ſame Circumſtances are accompany'd with Falſhood: Our Underſtanding naturally carrys to believe the thing to be true; and there is a reaſon for ſo doing, eſpecially in the Conduct of the Actions of our Life, that never requires a greater aſſurance than a moral Certainty, and which is ſatisfy'd upon moſt occaſions with a great Probability.

But on the other ſide, if theſe Circumſtances are ſuch as are frequently accompany'd with Falſhood;

Reaſon requires us to ſuſpend our Belief; or that we ſhould look upon as falſe what is told us, when we ſee no likelyhood, that it ſhould be true, tho we do not find any abſolute Impoſſibility.

For Example, we demand, whether the Hiſtory of the Baptiſm of *Conſtantine* by *Silveſter* be true, or falſe? *Baronius* believes it true; but Cardinal *Perron*, Biſhop *Spondanus*, *Petavius*, *Morinus*, and the moſt eminent of the *Roman* Church believe it falſe. Now if we inſiſt upon the ſole Poſſibility, we have no reaſon to reject *Baronius*. For his opinion contains nothing abſolutely impoſſible; and to ſpeak abſolutely, it is alſo poſſible, that *Euſebius*, who affirms the contrary, affirm'd an untruth in favour of the *Arrians*; and that the Fathers that follow'd him were deceiv'd by his Teſtimony. But if we make uſe of the Rule already laid down, which is to conſider what are the Circumſtances both of the one and the other Baptiſm of *Conſtantine*, and which are thoſe that carry the greateſt marks of Truth, we ſhall find 'em to be the latter. For on the one ſide, there is no great reaſon to rely upon the Teſtimony of a Writer as fabulous as the Author of the Acts of *Sylveſter* who is the only perſon of Antiquity, who has ſpoken of *Conſtantin*'s being baptiz'd at *Rome*. And on the other ſide there is no liklihood that a Perſon ſo Serious and Learned as *Euſebius* ſhould preſume to report an untruth relating to a thing ſo remarkable, as the Baptiſm of the firſt Emperor that reſtor'd the Church to her Liberty, and which ought to have been ſpread over all the World, at the ſame time that he wrote, which was not above four or five Hundred years after the Death of the ſaid Emperor.

Never-

Nevertheleſs there is an Exception to this Rule, by which we ought to be ſatisfied with poſſibillity or likelihood. That is, when an action, which is otherwiſe ſufficiently atteſted, is contradicted by Incongruities, and apparent contrarieties with other Hiſtories.

For then it ſuffices that the Solutions brought to enervate theſe Repugnancies be poſſible and probable; and it would be unreaſonable to require other poſitive Proofs; for that the Act it ſelf being ſufficient y prov'd, it is not equitable to require that we ſhould prove all the Circumſtances in the ſame manner. Otherwiſe we might call in queſtion a thouſand moſt certain Hiſtories, which we cannot make agree with others of leſs Authority, but by Conjectures which it is impoſſible to prove poſitively.

For example, we cannot bring to an agreement what is deliver'd in the *Kings* and *Chronicles* concerning the years of the Reigns of ſeveral of the Kings of *Juda* and *Iſrael*, but by aſſigning to ſome of the Kings, two beginnings of their Reigns, the one during the Life of the Reigning Prince, and the other after the deceaſe of their Parents. Now if it be ask'd what Proof we have that ſuch a Prince raign'd for ſome time with his Father; we muſt confeſs there is none Poſitive. But it ſuffices that it is a thing Poſſible, and which has often come to paſs at other times, to make it Lawful for us to ſuppoſe it, as a Cicumſtance neceſſary to reconcile Hiſtories otherwiſe certain.

And therefore there is nothing more ridiculous then the endeavours of ſome perſons of this latter Age, to prove that St. *Peter* never was at *Rome*.

They cannot deny this Truth to be atteſted by all the Eccleſiaſtic Writers, and thoſe the moſt ancient, as *Papias*, *Dionyſius of Corinth*, *Caius*, *Irenæus*, *Tertullian*; againſt whom there is not any one that has made the the leaſt Contradiction.

Nevertheleſs they imagine they can ruin this Truth by Conjectures; for example, becauſe St. *Paul* makes no mention of St. *Peter* in his Epiſtles written to *Rome*; and when they are anſwer'd that St. *Peter* might be then abſent from *Rome*, in regard he is not ſaid to have fix'd his ſeat there, as being one that often travail'd abroad to Preach the Goſpel in other places; they reply that this is urg'd without any Proof, which is Impertinent, becauſe the Act which they oppoſe, being one of the moſt confirm'd Truths in Eccleſiaſtical Hiſtory, it is ſufficient for thoſe that uphold it to reconcile theſe pretended Contrarieties, as they do thoſe of the Scripture it ſelf; for which, as we have ſhew'd Poſſibility is ſufficient.

CHAP. VII.

An Application of the preceeding Rule to the Belief of Miracles.

THE *Rule* which we have explain'd is without doubt of great Importance for the well regulating our Reaſon in the belief of particular Acts. For want of the due Obſervation of which we are in great danger of falling into the two dangerous extremities of Credulity and Incredulity.

For

For example, there are ſome, who make a Conſcience of queſtioning any Miracle; becauſe they have a fancy, that they ſhould be oblig'd to queſtion all, ſhould they queſtion any; and for that they are perſwaded, that it is enough for them, by knowing that all things are poſſible with God, to believe whatever is told 'em touching the Effects of his Omnipotency.

Others as ridiculouſly imagin, that it is in the Power of the Underſtanding to call all Miracles in queſtion, for no other reaſon, becauſe ſo many have been related that have prov'd to be falſe, and therefore there is no more reaſon to believe the one than the other.

The Inclination of the firſt is much more tolerable than that of the latter; tho true it is, that both the one and the other argue equally amiſs.

They both depend upon common Places. The firſt upon the Power and Goodneſs of God; upon certain and unqueſtionable Miracles, which they bring for proof of thoſe that are called in queſtion; and upon the Blindneſs of *Libertines*; who will believe nothing, but what is proportionable to their Reaſon. All this is very good in it's ſelf; but very weak to convince us of a particular Miracle. For God does not always act according to his Power; nor is it an Argument, that a Miracle was wrought, becauſe others of the ſame nature have been wrought. And we may do well to believe, what is above our Reaſon, without being oblig'd to believe all that Men are pleas'd to obtrude upon us, as being above our Reaſon.

The latter make uſe of common Places of another ſort.

Truth ſays one of 'em, *and Falſhood appear with Countenances alike; the ſame Gate, the ſame Steps we behold with the ſame Eyes. I have ſeen the riſe of ſeveral miracles in my Time. And tho' they vaniſh'd in the birth, yet we cannot but foreſee the Train they would have gathered, had they liv'd to their full Age. For it is but to find out the end of the Thread, and to cut it into as many peices as we pleaſe, and there is not a greater diſtance between nothing and the ſmalleſt thing in the World, then there is between this and the greateſt. Now the firſt that were intoxicated with this beginning of Novelty, coming to ſpread their Hiſtory, find by the oppoſition which they meet with, where the difficulty of Perſwaſion lodges, and make it their buſineſs to Fucus over that part of a falſe Peice. Particular Error firſt cauſes publick Miſtake, and afterwards publick miſtake cauſes particular Error. Thus the whole Structure of the miracle by ſome pull'd down, by others upheld, and by addition enlarg'd at length grows up to a conſiderable Pile. So that the moſt remote Witneſs is better inſtructed then he that lives cloſe by, and the laſt that heard of it, bettter confirm'd then the firſt Publiſher.*

This Diſcourſe is ingenious, and may be profitable to prevent us from being led away with every Idle Report. But it would be an Extravagance from hence to conclude generally that we ought to ſuſpect whatever is ſaid of Miracles. For certain it is, that what is here alledg'd relates only to thoſe things which are taken up upon common Fame, without enquiring into the original cauſe of the Report. And we have no reaſon to be confident of what we know upon no better grounds.

But

But who ſo blind as not to ſee that we may make a common place oppoſite to this, and that at leaſt upon as good a Foundation?

For as there are ſome miracles that would deſerve but little credit, ſhould we enquire into their Original, ſo there are others that vaniſh out of the memories of Men, or which find but little credit in their judgments, becauſe they will not take the pains to inform themſelves. Our underſtanding is not ſubject only to one ſort of diſtemper, but ſeveral, and thoſe quite contrary. There is a ſottiſh ſtupidity, that believes all things the leaſt probable. But there is a conceited preſumption that condemns for falſe, whatever ſurpaſes the narrow limits of the underſtanding. Sometimes we hunt after trifles, and neglect things of greateſt moment. Falſe ſtories ſpread themſelves every where, while true ones can hardly get liberty to creep abroad.

Few Perſons have heard of the miracle that happen'd in our time, at *Faramonſtier*, in the Perſon of a Nun, ſo blind, that hardly the Balls of her Eyes were left in her Head, who recover'd her ſight by touching the Reliques of *St. Fara*, as I am aſſur'd by the Teſtimony of a Perſon that ſaw her in both conditions.

St. *Auſtin* affirms, that many real miracles were wrought in his time, that were known but to few; and which, though moſt remarkable and wonderful, ſpread no farther then from one end of the Town to the other. Which induc'd him to write, and relate, in his Sermons, to the People, ſuch as were moſt certain. And he obſerves in his *Twenty ſecond Book of the City of God*, that in the ſingle City of *Hippo*, near Seventy Miracles were wrought within

within two years after the Building of a Chappel in Honour of St. *Stephen*, beſides a great number of others which he did not commit to writing, which however he teſtifies to be true upon his knowledge.

We therefore ſee that there is nothing more irrational, then to guide our ſelves by common places, upon theſe occaſions; whether it be in rejecting all Miracles, or embracing all. And therefore we muſt examin 'em by their particular Circumſtances, and by the credit and knowledg of the Reporters.

Piety does not not oblige a Man of Sence to believe all the Miracles in the *Golden Legend* or the *Metaphraſt*: In regard thoſe Books are ſo full of Fables, that there is nothing to be credited upon their Authority: As Cardinal *Bellarmin* has made no ſcruple to confeſs of the laſt.

But I affirm, that every Man of Sence, bating his Piety, ought to acknowledge for true the Miracles which St *Auſtin* recites in his Confeſſions and his Book *de Civitate Dei*, ſome of which he ſaw, and others of which he was inform'd by the Perſons themſelves, in whoſe ſight they were wrought. As of the Blind Man cur'd at *Milan* before all the People, by touching the Relics of St. *Gervace* and *Protaſius*, which he reports in his Confeſſion, and of which he ſpeaks in the 22*d*. Book *de Civitate Dei*, cap. 8. *A certain Miracle was wrought at* Milan, *when we were there, when a Blind Man was reſtor'd to his ſight, which could not be unknown to Thouſands; For it is a large City, and there was then the Emperor; and the thing was done before a vaſt Multitude of People, crowding to the Bodies of the Martyrs,* St. Gervaſe *and* Protaſius.

Of

Of a Woman cur'd in *Africa* by Flowrs that had touch'd the Relics of St. *Stephen*, as he teſtifies in the ſame Book.

Of a Lady of Quality cur'd of a Cancer by the ſign of the Croſs which ſhe caus'd to be made upon the Soar, by one that was newly Baptiz'd according to a Revelation which ſhe had had.

Of a Child that dy'd unbaptiz'd, whoſe reſtoration to Life the Mother obtain'd by her prayers to St. *Peter*, in the ſtrength of her Faith, invoking him in theſe words, *Holy Martyr reſtore me my Son: thou knoweſt, I ask his Life for no other reaſon, but becauſe he ſhould not be eternally ſeparated from God.*

Now if theſe things may be ſuppos'd to have happen'd as they are related, there is no rational Perſon but muſt acknowledge theſe things to be the Finger of God. So that all their Incredulity could do, would be to doubt of the Teſtimony of St. *Auſtin*, and to believe him a falſifyer of the Truth, to gain a Veneration of the Chriſtian Religion among the *Pagans*. Which is that which they have no colour to imagine.

Firſt, becauſe it is not likely that a Perſon of his judgment would have told an untruth in things ſo public, wherein he might have been convinc'd of falſhood by infinite Numbers of Teſtimonies, which would have redounded to the Ignominy of the Chriſtian Religion.

Secondly, becauſe there was never any Perſon more a profeſs'd Enemy of Falſhood, then this Holy Man, eſpecially in matters of Religion, having made it the work of entire Treatiſes, to prove that it is not only unlawful to tell a lie; but a thing ſo deteſtable

teſtable, that it is not to be made uſe of, though for the Converſion of Men to the Chriſtian Faith.

I have the more enlarg'd my ſelf upon this remarkable example, of the judgment that is to be made of the Truth of Actions, to ſerve as a Rule upon the like occaſions, becauſe we moſt commonly deviate in thoſe things. For every one thinks, that it is ſufficient for the deciſion of theſe to make a common Place, which for the moſt part is only compos'd of Maxims, which not only are not Univerſally True, but not ſo much as probable when they are joyn'd with the particular Circumſtances of Actions, that fall under Examination. And therefore Circumſtances are to be compar'd and conſider'd together, not conſider'd a part. For it often happens, that an Act which is not very probable in one Circumſtance, ought to be eſteem'd and taken for certain, according to other Circumſtances: And on the other ſide, an Action which appears to us true, according to one Circumſtance which is uſually joyn'd with truth, ought to be deem'd falſe, according to other weakning Circumſtances, as we ſhall make out in the following Chapter.

CHAP.

CHAP. XV.

Other Remarks upon the ſame Subject, of the Beleif of Events.

THere is yet one other Remark of great Moment, to make upon the Belief of Events. Which is, that among thoſe Circumſtances which we ought to conſider, that we may know whether credit be to be given to the Fact, or no; there are ſome which we may call *common Circumſtances*, becauſe they frequently occur; and are far oftner joyn'd to Truth then Falſhood, and then if they be not Counter-ballanc'd by other particular Circumſtances, that ruin the motives of belief drawn from common Circumſtances, we have reaſon to believe thoſe events, if not to be certain, yet at leaſt to be probable; which probability is ſufficient, when we are bound to pronounce our opinion in ſuch caſes. For as we ought to be ſatisfy'd with a moral aſſurance, in things not capable of Metaphyſical certainty; ſo when we cannot obtain a full moral aſſurance, the beſt we can do, when we are to reſolve, is to embrace the moſt probable; for it would be contrary to reaſon to embrace the leaſt probable.

But if on the other ſide theſe common Circumſtances, which would have induc'd us to believe a thing, be joyn'd with other particular Circumſtances that ruin the motives of belief, drawn from common Circumſtances, or be ſuch as are rarely found

found without falſehood, we are not then any longer to believe that event. But either we remain in ſuſpence, if the particular Circumſtances enfeeble the weight of common Circumſtances, or we believe the action to be falſe, if the Circumſtances are ſuch as are uſually the marks of Falſhood.

For example, it is a common Circumſtance, for many Contracts to be ſign'd by two public Notaries; that is, by two public Perſons, whoſe chiefeſt Intereſt it is to be juſt and true in their employments, becauſe not only their Conſcience and Reputation, but their Lives and Eſtates lie at Stake. This conſideration alone is ſufficient, if we know no other particularities of the contract, to make us believe that the Contract is not Antidated. Not but that it might be ſo; but becauſe it is certain, that of a Thouſand Contracts, Nine Hundred Ninety Nine are not. So that it is infinitely more probable, that this contract is one of the Nine Hundred Ninety Nine, then the only Antidated Contract of a Thouſand. So that if withal, the integrity of the Notary that ſign'd it be known to me, I ſhall moſt certainly believe, that there is no foul play in the Writing.

But if to this common Circumſtance of being ſign'd by two Notaries, there are joyn'd other particular Circumſtances, as that the Notaries are Perſons of no Conſcience or Reputation, ſo that they might be inſtrumental in falſifying the deed, yet ſhall not this make me conclude that the deed is antidated. But if beſides all theſe, I can diſcover other proofs of the Antidate, either by Witneſſes or convincing Arguments, as the inability of the Perſon to lend Twenty Thouſand Crowns, at a time when

when it ſhall be demonſtrable that he had not a Hundred in caſh, I will then reſolve to beleive the contract to be falſify'd, and it were unreaſonable for any Perſon to believe me to believe otherwiſe; and I ſhould do ill, to ſuſpect others, where I did not however ſee the ſame marks of Falſhood, not to be falſe, ſince they might be as well Counterfeited as the other.

We may apply all this to ſeveral matters that cauſe frequent diſputes among the Learned. We demand if ſuch a Book were written by ſuch an Author whoſe Name was always to it? And whether the Acts of a Council are True or Counterfeit?

Certain it is, that we ought to give Sentence for the Author, whoſe name has been long acknoledg'd and affix'd to the Work; and for the Acts of a Council which we read every day; nor are we to believe the contrary, but upon very ſtrong Reaſons.

Therefore a moſt learned Perſon of this Age, being to prove, that the Epiſtle of *Cyprian* to Pope *Steven*, about *Martian* Biſhop of *Arles*, was none of the Holy Martyrs, he could not convince the Learned, his Conjectures not ſeeming ſufficient to deprive St. *Cyprian* of a Peice that had always carry'd his Name, and which has a perfect reſemblance of Style, with the reſt of his Works.

In vain alſo it is, that *Blondel* and *Salmaſius*, not able to anſwer the Argument drawn from the Epiſtles of *Ignatius*, for the ſuperiority of Biſhops above Prieſts, in the Infancy of the Church, pretend thoſe Epiſtles to be Counterfeit, though as they were Printed by *Voſſius* and *Uſher*, from the Antient Manuſcript in the *Florentine* Library: Inſomuch

much that they have been refut'd by thoſe of their own party. For that confeſſing as they do, that we have the ſame Epiſtles which were cited by *Euſebius*, St. *Jerom*, *Theodoret*, and *Origen* himſelf, there is no likelihood that the Epiſtles of *Ignatius*, being collected by *Polycarp*, that the true Epiſtles ſhould have diſappear'd, and others be counterfeited in the time betwee *Polycarp* and *Origen* or *Euſebius*. Beſides that thoſe Epiſtles of *Ignatius*, which we have now wear ſuch a Character of the holineſs and ſimplicity, ſo proper to the Apoſtolic Times, that they juſtifie themſelves againſt the vain accuſations of being falſe and counterfeit.

Laſtly, all the difficulties that Cardinal *Perron* propoſes againſt the Epiſtles of the Council of *Afric*, to Pope *Celeſtin*, touching Appeals to the See, cannot prevail with us to beleive otherwiſe now then before, but that thoſe Epiſtles were really written by the Council.

But it happens ſometimes that particular Circumſtances carry more weight in Perſwaſion, then long Poſſeſſion.

So that altho' the Epiſtle of St. *Clement* to St. *James* Biſhop of *Jeruſalem* be tranſlated by *Ruffinus*, near upon thirteen hundred Years ago, and that it is cited and own'd for St. *Clement* by a Council of *France*, above twelve Hundred years ago, yet we can hardly believe it otherwiſe then Counterfeit. In regard that St. *James* being Martyr'd before St. *Peter*, it is impoſſible that St. *Clement* ſhould write after the Death of St. *Peter*, as the Epiſtle ſuppoſes.

Thus tho the Commentaries upon St. *Paul* are attributed to St. *Ambroſe*, and cited under his Name by a great number of Authors, together with that

imperfect

imperfect Work upon St. *Mather*, under the name of *Chryſoſtome*. All Men however at this day agree that they belong to neither, but to other antient Authors full of many Errors.

Laſtly, the Acts of the two *Sinueſſan* Councils under *Marcellin*, and two or three at *Rome*, under *Silveſter*, and another at *Rome* under *Sixtus* III. might be ſufficient to perſwade us of the verity of thoſe Councils, if they contain'd nothing but what were congruous to reaſon, and which might be proper for the times, wherein they are ſaid to be Celebrated; but they contain ſo many abſurdities, ſo diſagreeable from thoſe times, that there is great likelihood of their being falſe and counterfeit.

And theſe are the Remarks which may ſerve for theſe ſorts of judgments. But we muſt not imagin 'em to be of ſuch great uſe, as always to free us from the danger of being deceiv'd. All that they can do at moſt, is to guard us from the more groſs and apparent Abſurdities, and to enure us not to be carry'd aſtray by common Places, which containing ſomething of general Truth, ceaſe not however to be falſe upon many particular occaſions, which is one of the chiefeſt ſources of human Error.

CHAP. XVI.

Of the Judgments we ought to make of Future Accidents.

THeſe Rules that ſerve us to judge of Things paſt, may be apply'd to things to come. For as we probably judge a Thing to have come to paſs, when the certain Circumſtances which we know to be uſually joyn'd to the Fact; we may as probably believe that ſuch a thing will happen, when the preſent Circumſtances are ſuch as are uſually attended by ſuch an Effect. Thus the Phyſitians judge of the good or bad ſucceſs of Diſeaſes; Captain of the future Events of War; and that we judge in the world of the moſt part of contingent Affairs.

But as to theſe Accidents of which we are ſome part our ſelves, and which we may either promote or prevent by our care and foreſight, in avoiding or expoſing our ſelves to harm or danger; it happens that moſt perſons fall into many errors, ſo much the more greivous, by how much they ſeem to be guarded by reaſon; becauſe they only ſet before their Eyes, the Grandeur and conſequence of the advantage which they wiſh for, or the miſchiefs that they fear, not conſidering the likelihood and probability that this advantage or inconvenience may happen or not happen.

In like manner, when it is any great misfortune which they fear, as loſs of Life or Eſtate, they think

think it prudence not to take any care to prevent it. Or if it be any great advantage which they expect, as the gain of a Hundred Thouſand Crowns, they think they act wiſely to endeavour the gaining of it, if the Venter coſt but little, let the probability of ſucceſs be never ſo ſmall.

By ſuch a Ratiocination as this it was, that a Princeſs hearing that ſome Perſons had been overwhelm'd by the fall of a Roof, would never go into a Houſe, 'till ſhe had all the Roofs firſt view'd; and ſhe was ſo fully perſwaded, that ſhe had a reaſon for ſo doing, that ſhe accounted all other imprudent, that did not as ſhe did.

'Tis alſo this appearance of Reaſon, that engages ſeveral Perſons into inconvenient and exceſſive cautions for the preſervation of their Health. This is that which renders others diſtruſtful even in little Things; for that having been ſometimes deceiv'd, they believe they ſhall be deceiv'd in all their other Buſineſs.

This is that which enveagles ſo many People to Lotteries, to gain, cry they, Twenty Thouſand Crowns for one Crown, is not that a very great advantage? And every one believes himſelf ſhall be that happy Perſon, upon whom this great Fortune ſhall ſhowr it ſelf: Never conſidering, that though the Lots promiſe Twenty Thouſand for One, 'tis Thirty times more probable to every particular perſon, that he ſhall be a looſer then a winner.

And this is the Defect of this Ratiocination; for that we may judge what is fit to be done, to obtain the good and avoid the evil, we ought not only to conſider the good and the evil in its ſelf; but alſo the probability whether it may happen or no; and Geometrically to conſider the Proportion which

the things hold together; which may be demonſtrated by this Example.

Ten Men at play, ſtake every one a Crown, there is but one can win the whole Stake, all the reſt are looſers. So that every one has theſe two chances, either to looſe One Crown or win Nine. Now if we ſhould conſider only the gain and loſs in themſelves, it might ſeem that all had an equal advantage: But we are to conſider moreover, that if every one may win Nine Crowns, and can only looſe one, it is alſo nine times more probable in reſpect of every one, that he ſhall looſe his One, then win the Nine; while every Man has nine Degrees of Probability to looſe one Crown, and but one degree of Probability to gain Nine; which equals the hopes and fears of Gain and Loſs.

All Plays of this Nature, are as equitable as Plays can be, but all that are not under this Equality of Lots are unjuſt. And hence it is that it may be plainly made out, that there is an evident Injuſtice in all ſorts of Lotteries; for the Maſter of the Lottery uſually claiming the tenth part of the whole Fund for his own ſhare, the whole crowd of thoſe that play is cheated in the ſame manner as if a Man playing at a Game, wherein there were as much likelihood of winning as looſing ſhould Play nine Piſtols to one. Now if this be diſadvantageous to the whole Crowd, it muſt be alſo the ſame to every particular perſon, becauſe the Probability of looſing, far more ſurpaſſes the Probability of gaining, then the advantage we hope for, the diſadvantage of Looſing.

Sometimes there is ſo little likelihood in the ſucceſs of a thing, that how advantageous ſo ever it be,

be, and how ſmall ſoever the hazard of winning, it is better not to hazard. Thus it would be a fooliſh thing to play twenty *Sols* againſt ten Millions of *Livres*, or againſt a Kingdom, upon condition he ſhould not win, unleſs ſuch an Infant taking out the Letters out of a Printers Caſe by accident, did all of a ſuddain Compoſe the firſt twenty Verſes of *Virgil's Æneiads*. For indeed there are few Moments ſcape us, wherein we do not run the Riſco of looſing more, than a King that ſhould ſtake his Kingdom to ſuch a Condition.

Theſe Reflexions ſeem of little value, and are ſo indeed if we ſtop here; but we may make uſe of 'em in matters of greater Importance; and the chiefeſt uſe we can make of 'em is to render us more rational in our hopes and fears. For Example, there are ſome Perſons that are in a Panic dread when they hear it Thunder; which clatter and hurly-burly in the Sky, if it put 'em in mind of God and Death, 'tis well; but if only the fear of being Thunder-ſtruck cauſes this extraordinary apprehenſion, then it will eaſily appear how little Reaſon they have. For of two Millions of Perſons 'tis very much if one be kill'd in that manner: and we may alſo averr, that there is no ſort of violent Death happens ſo rarely. Since then the fear of miſchief ought to be Proportionable to the greatneſs of the danger, and the Probability of the Event, as there is no ſort of danger that ſo rarely befalls us as to be kill'd with Thunder, ſo have we the leaſt reaſon to fear it: ſince that fear will no way avail us to avoid it.

Hence Arguments may be produc'd not only to undeceive ſuch People as are ſo over morofely and

unſeaſonably cautious in the Preſervation of their Health and Lives, by ſhewing 'em that thoſe Precautions are much more miſcheivous then the danger ſo remote from the accident which they fear; but alſo to diſabuſe another ſort that always argue thus in other affairs, there is danger in this Buſineſs, therefore it is evil. There is Profit in this, therefore it is good: In regard we are not to judg of thoſe things, either by the danger or the advantage, but by their proportion one with another.

It is the Nature of things Finite to be exceeded, how bulky ſoever they be by the leaſt of things, if multiplied often enough; or if the little things are far more Superiour to the great ones in probability of Event, then they are inferiour to 'em in bigneſs.

For an Atome may exceed a Mountain if it be ſufficiently multiplied, or if this great Good we wiſh for is ſo difficult to be obtain'd, that it ſurpaſſes the little one more in Magnitude, then the little one ſurpaſſes the greater in facility of being obtain'd. The ſame is to be ſaid of thoſe miſchiefs which we fear; that is, that the leaſt Evil may be more conſiderable then the greateſt Evil, which is not Infinite, if it ſurpaſs it according to this Proportion.

There are nothing but Infinite things that can be equall'd by any temporal advantage, and therefore they are never to be put in the Ballance with any of the things of this Word. And therefore the leaſt degree of Facility for a Man to ſave himſelf is worth all the felicities of this World join'd together. And the leaſt danger of looſing it is more conſiderable then all temporal miſcheifs, if only look'd upon as Misfortunes.

And

And this may be ſufficient, for all rational perſons to draw from what has been ſaid, this Concluſion, with which we will end our Logic. *That the greateſt of all Imprudence, and higheſt of all Madneſſes is this, to ſpend our Lives and our Time in any thing elſe then in what may be ſerviceable to acquire us a Life that never ſhall have any end.* Since the Good and Evil of this Life is nothing, if compared to the felicities and ſufferings of the other; and the danger of falling into the one is as great as the difficulty of acquiring the other.

They who draw this Concluſion, and follow it in the conduct of their Lives, are Prudent and Wiſe, let 'em be never ſo unlearned in Arguments concerning the Sciences. Whereas they who neglect it, tho never ſo Learned in other things, are call'd in Scripture Fools, Madmen, and make but an ill uſe of Logic, Reaſon, or their Lives.

THE END.

THE

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